

REPORT ON MACHINERY.

No. 3280. (a)

Received at London Office

Date of writing Report 22nd Aug 1921 When handed in at Local Office ✓ 19 21 Port of MELBOURNE WED. 12 OCT. 1921
 No. in Survey held at Castlemaine & Melbourne Date, First Survey 10th Feb 1920 Last Survey 22nd Aug 1921
 Reg. Book. on the S.S. "EUDUNDA" (Number of Visits 57)

Master ✓ Built at SYDNEY N.S.W. By whom built Cockatoo Naval Dockyard. When built 1920
 Engines made at Castlemaine By whom made Thompson & Co (Castlemaine) Pty Ltd when made 1921
 Boilers made at Renfrew (partly) completed at Melbourne. By whom made Babcock & Wilcox Ltd when made 1921
 Registered Horse Power ✓ Owners Commonwealth Government Line Port belonging to Port Adelaide
 Nom. Horse Power as per Section 28 516 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Vertical Triple expansion 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 13.82 Material of Mild steel
as fitted 14.5" screw shaft) Is the screw shaft fitted with a continuous liner the whole length of the stern tube In three pieces Is the after end of the liner made water tight
 at 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 Fits tightly If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5'-0 1/2"
 Dia. of Tunnel shaft as per rule 12.5 Dia. of Crank shaft journals as per rule 13.13 Dia. of Crank pin 13 1/4 Size of Crank webs 8 3/8 by 25" Dia. of thrust shaft under
as fitted 12 1/2 as fitted 13 1/4 collars 13 1/4 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 21 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Main 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 & 7 x 21, 10 1/2 & 12 1/2 x 21 No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room Three 3 1/2" Stokehold - 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 1 sizes 8" Connected to condenser, etc. 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 ✓
 Are all connections with the sea direct on the skin of the ship Yes The Main Injection is fitted on a plate box. Are they Valves or Cocks Valves - except Evaporator, Ash & Blow down Cocks
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates No Are the Discharge Pipes above or below the deep water line Main Disch below - 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 Nos 1 & 2 Hold & fore peak bilge suction How are they protected Under limber 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 Eng room top platform.

OILERS, &c.—(Letter for record S) Manufacturers of Steel Stewart & Lloyd.
 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 350 lbs Date of test 26/5/21 No. of Certificate ✓
 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 21" Mean dia. of drums boilers 4'-0" Length 13'-3 1/2" Material of shell plates Steel
 Thickness 17/32 & 1" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. Lap
 long. seams T.R. Single butt Diameter of rivet holes in long. seams 37/32 Pitch of rivets 3 3/4" Lap of plates or width of butt straps 7"
 Percentages of strength of longitudinal joint rivets 77.5 Working pressure of shell by rules 210 lbs Size of manhole in shell 11" x 15"
 plate 75.8 Size of compensating ring 22" x 28 3/4" x 7/8" No. and Description of Furnaces in each boiler ✓ Material ✓ Outside diameter ✓
 Length of plain part top ✓ Thickness of plates crown ✓ bottom ✓ Description of longitudinal joint ✓ No. of strengthening rings ✓
 Working pressure of furnace by the rules ✓ Combustion chamber plates: Material ✓ Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓
 Pitch of stays to ditto: Sides ✓ Back ✓ Top ✓ If stays are fitted with nuts or riveted heads ✓ Working pressure by rules ✓
 Material of stays ✓ Area at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ End plates in steam space: ✓
 Material Steel Thickness 13/16" Pitch of stays None How are stays secured ✓ Working pressure by rules 240 lbs Material of stays ✓
 Area at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ Material of Front plates at bottom ✓
 Thickness ✓ Material of Headers Lower back plate Steel Thickness 17/32" Greatest pitch of stays None Working pressure of plate by rules ✓
 Diameter of tubes 13/16 Pitch of tubes 25/8, 2 3/4 Material of tube plates Steel Thickness: Front 1" Back ✓ Mean pitch of stays 7"
 Pitch across wide water spaces ✓ Working pressures by rules ✓ Girders to Chamber tops: Material ✓ Depth and
 thickness of girder at centre ✓ Length as per rule ✓ Distance apart ✓ Number and pitch of stays in each ✓
 Working pressure by rules ✓ Steam dome: description of joint to shell ✓ % of strength of joint ✓
 Diameter ✓ Thickness of mud drums shell plates 3/4" Material Steel Description of longitudinal joint Weld 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 ✓ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler ✓
 Diameter of Safety Valve ✓ Pressure to which each is adjusted ✓ Is Easing Gear fitted ✓

013346-013356-0311

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IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Connecting Rod 2sp end bolts & nuts - 2, Bottom end bolts & nuts - 2
Crank & tunnel shaft coupling bolts & nuts - 3 of each, Main bearing bolts & nuts - 3, One set
of suction & discharge valves, one set of piston rings, one set of bucket rings for each of
the following pumps - Bilge, feed, general service, donkey feed & ballast pumps, One spare propeller
One set of piston rings for H.P. 1P & LP pistons 1 H.P. piston valve, one set of air pump valves, 42 spare boiler
tubes, one set of special fire bricks, main & donkey feed check valves (2). 12 Handhole fittings
for headers, 2 safety valve springs, 1 set of spares for automatic feed regulator, one set of firebars.*

The foregoing is a correct description,
For and on behalf of

THOMPSON & CO. (MELBOURNE) PROPY. LTD.

Andrew Reid

Manufacturer.

MELBOURNE MANAGER.

Dates of Survey while building { During progress of work in shops - - } 1920 - Feb 10th, Mar 4th, May 14th, June 25th, July 2nd, 9th, 24th, Aug 2nd, 13th, 19th, Sept 10th, 15th, 29th, Oct 5th, 7th, 14th, 20th, Nov 6th, 10th, 18th, 29th
{ During erection on board vessel - - - } 1920 Dec 13th, 1921 Jan 5, 12, 14, 17, 27, Feb 1, 8, 14, 17, Mar 7, 9, 11, 21, 31, April 5, 7, 18, May 3, 10, 18, 26, June 2, 10, 13, 21, July 15, 25, 29, Aug 1, 3, 12, 18
Total No. of visits *57*

Is the approved plan of main boiler forwarded herewith *No*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *4/3/20 + 4/6/20* Slides *4/6/20* Covers *4/6/20* Pistons *4/6/20* Rods *25/6/20*
Connecting rods *25/6/20* Crank shaft *2/7/20* Thrust shaft *3/8/20* Tunnel shafts *18/11/20* Screw shaft *31/3/21* Propeller *31/3/21*
Stern tube *13/12/20* Steam pipes tested *8/2/21* Engine and boiler seatings *12/12/20* Engines holding down bolts *18/5/21*
Completion of pumping arrangements *4/8/21* Boilers fixed *26/5/21* Engines tried under steam *4/8/21*
Completion of fitting sea connections *Done at Sydney* Stern tube *9/3/21* Screw shaft and propeller *3/5/21*
Main boiler safety valves adjusted *18/8/21 (Trial Trip)* Thickness of adjusting washers

Port	Centre	Starbd
<i>17 21</i>	<i>13 17</i>	<i>15 13</i>
<i>32 32</i>	<i>32 32</i>	<i>32 32</i>

Material of Crank shaft *Mild Steel* Identification Mark on Do. *No 20* ^{HP} Material of Thrust shaft *Steel* Identification Mark on Do. *No 23*
Material of Tunnel shafts *Steel* Identification Marks on Do. *No 24, 25, 26, 27, 28* ^{LP} Material of Screw shafts *Steel* Identification Marks on Do. *No 29*
Material of Steam Pipes *Steel* Test pressure *550 lbs.* Spare Shaft *No 46*

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 *"EMITA" & "ERRIBA"*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this Vessel has
been built under Special Survey, of good materials & workmanship and
in accordance with the Rules & approved plans. The Machinery & Boilers
have been fitted on board in an efficient manner, tried under
steam & are now eligible for record of - LMC 8, 21.
subject to W.T. Boilers being surveyed annually.*

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 8.21 FD CL
3 Watertube Boilers

Subject to the Water Tube Boilers
being surveyed annually.

Reid
18/10/21

A McEwan & A J McEwan
Engineer Surveyors to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 6 : 0 :
Special ^{£126 less £8.8} charged at Glasgow on Boilers £ 117 : 12 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 6 : 10/6

FRI. 21 OCT. 1921

Committee's Minute

Assigned

+ L.M.C. 8.21

FD. C. L. subject.

CERTIFICATE WRITTEN



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Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.