

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 14 JUL 1925

Date of writing Report 26. 5 1925 When handed in at Local Office 28. 5 1925 Port of Sydney, N.S.W.  
 No. in Survey held at Sydney, N.S.W. Date, First Survey 17. 6. 24 Last Survey 18. 5 1925  
 Reg. Book. on the S S CAPE LEEUWIN (Number of Visits 43)  
 Built at Sydney N.S.W. By whom built Australian Commonwealth Shipping Board. Tons Gross 1406. Net 495  
 Engines made at Sydney N.S.W. By whom made " " Engine No. 101. When built 1925  
 Boilers made at Sydney N.S.W. By whom made " " Boiler No. 101. when made 1925  
 Registered Horse Power Owners Commonwealth Government of A.S. Port belonging to Fremantle, W.A.  
 Nom. Horse Power as per Rule 230, 225. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple Expansion  
 Dia. of Cylinders 18 1/4 - 30 - 49 Length of Stroke 36 Revs. per minute 110 No. of Cylinders 3 No. of Cranks 3  
 Dia. of Crank shaft journals as per rule 9.62 as fitted 10.5 Dia. of Crank pin 10.25 Crank webs Mid. length breadth 19.25 Thickness parallel to axis 7 1/2  
 Mid. length thickness 7.5 shrunk Thickness around eye-hole 4 5/16  
 Diameter of Thrust shaft under collars as per rule 9.69 as fitted 10.25 Diameter of Tunnel shaft as per rule 9.23 as fitted 9.75 Diameter of Screw shaft as per rule 10.18 as fitted 10.5 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 watertight 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 plastic material insoluble in water and non-corrosive Yes  
 If two liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved appliance fitted at the after end of the shaft to permit it being efficiently lubricated Yes

Pitch of Propeller 13.5 No. of Blades Four Length of Stern Bush 3-9 Diameter of Propeller 10-6  
 State whether Moveable No Total Surface 32.7 square feet.  
 No. of Feed Pumps fitted to the Main Engines Nil Diameter of ditto Stroke Can one be overhauled while the other is at work Yes  
 No. of Bilge Pumps fitted to the Main Engines 2 Diameter of ditto 3 1/2 Stroke 18 Can one be overhauled while the other is at work Yes  
 Total number and size of power driven Feed and Bilge Auxiliary Pumps Two Feed each 8 1/2 x 6 x 18

No. and size of Pumps connected to the Main Bilge Line 2 Main Engine 3 1/2 x 18, 1 General Service 10 x 7 x 12, 1 Ballast Pump 7 1/2 x 9  
 No. and size of Ballast Pumps One 7 x 7 x 9 Duplex No. and size of Lubricating Oil Pumps, including Spare Pump  
 Are two independent means arranged for circulating water through the Oil Cooler Yes No. and size of suction connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 2 @ 2 1/2 in ER, (1 @ 2 1/2 and 1 @ 2 1/2 in BR and in Holds, &c. One 2 1/2 in Tunnel well, In No 2 Hold aft 2 @ 2 1/2, 2 @ 2 1/2 in Cross Bunker; 2 @ 2 1/2 in Forward Hold.

No. and size of Main Water Circulating Pump Bilge Suctions One 7 No. and size of Donkey Pump Direct Suctions  
 the Engine Room Bilges One 3 1/2 to Ballast Pump Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes  
 Are the Bilge Suctions in the Machinery Space led from easily accessible mud-boxes, placed above the level of the working floor, with straight tail pipes to the bilges Yes  
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both valves and cocks  
 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 except Oil Residue discharge fitted 5 1/2 below d.w.l.  
 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  
 How are they protected Strong wood casings  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 Is the arrangement of Valves and their connections such as to prevent the possibility of water passing from the sea or from water tanks into the cargo or machinery spaces, or from one compartment to another Yes Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from upper deck

MAIN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 4451 sq ft  
 Forced Draft fitted No No. and Description of Boilers Two Scotch, 2 SB Working Pressure 180 lbs.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes  
 IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?  
 PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers Yes Auxiliary Boilers Donkey Boilers  
 General Pumping Arrangements Yes Oil fuel Burning Piping Arrangements Yes

SPARE GEAR. State the articles supplied:— Two connecting Rod Top end and two bottom end Bolts and nuts, Two Main Bearing Bolts and nuts, 8 Coupling bolts and nuts, one set Main Engine Bilge Pump Valves and Seats, one set Piston Springs for each Cylinder, 12 Junk Ring Studs and nuts, 6 Cylinder Studs and nuts, 50 Condenser Tubes 100 Ferrules, 2 Sets of Metallic Packing for Piston Rods, 2 Sets for Valve spindles, one Pair Connecting Rod Brasses, one Air Pump Rod and guide, Head Valve seat and guard, 2 Sets metallic Air Pump Valves. Spare Propeller Shaft. One set Feed Pump Valves Bolts nuts and Iron assorted, etc.

The foregoing is a correct description,

*R. Langford*  
 Director of Shipbuilding  
 Cockatoo Island, Sydney

Manufacturer.



009557-009569-0264

June 17<sup>th</sup> 1924, June 21, July 2 visits, August 3 visits, September 5  
 During progress of work in shops } October 4, November 3, December 3<sup>rd</sup>, on 10<sup>th</sup> 12. 24 vessel launched  
 Dates of Survey while building } During erection on board vessel --- } 16 + 22 Dec 1924, 5. 6. 19 + 26 Jan 1925, Feb 6. 13 + 27<sup>th</sup>  
 March 3. 11. 18 + 26 April 2. 8. 16 + 23 May 18<sup>th</sup> + 26<sup>th</sup>  
 Total No. of visits 43.

Dates of Examination of principal parts—Cylinders { 18.6.24 29.8.24 18.7.24 Slides 14.8.24, 3.9.24, 3.10.24  
 2.8.24 25.10.24 10.10.24  
 Covers 25.7.24 + 12.8.24 Pistons 13.6.24 12.8.24, 8.9.24 Rods 17.6.24, 12.8.24, 8.9.24  
 Connecting rods 17.6.24, 12.8.24, 8.9.24 Crank shaft 18.6.24, 18.9.24, 16.10.24 Thrust shaft 18.6.24  
 Tunnel shafts 16.10.24 Screw shaft 13.10.24 Propeller 3.12.24 + 10.12.24  
 Stern tube 14.7.24, + 3.12.24 Engine and boiler seatings 6.2.25 Engines holding down bolts 6.2.25 + 27.6.25  
 Completion of pumping arrangements 14.3.25 Boilers fixed 27.2.25 Engines tried under steam 18.5.25  
 Completion of fitting sea connections 9.12.24 + Stern tube 9.12.24 Screw shaft and propeller 9.12.24  
 Main boiler safety valves adjusted 20.4.25 Thickness of adjusting washers Forward M.B. (F398, A418) aft M.B. (F352, A45)

Material of Crank shaft Mild Steel Identification Mark on Do. Lloyds No 68 ELC 4-11-24  
 Material of Thrust shaft Mild Steel Identification Mark on Do. " N. 68 ELC 4-11-24  
 Material of Tunnel shafts Mild Steel Identification Marks on Do. " N. 68 ELC 4-11-24  
 Material of Screw shafts Mild Steel Identification Marks on Do. " N. 68 ELC 4-11-24  
 Material of Steam Pipes Solid drawn Steel ✓ Test pressure 540 lbs/10" Date of Test 25.2.25 13.3.25 10.3.25  
 Is an installation fitted for burning oil fuel yes ✓ Is the flash point of the oil to be used over 150°F. yes ✓  
 Have the requirements of the Rules for carrying and burning oil fuel been complied with yes ✓  
 Is this machinery duplicate of a previous case no ✓ If so, state name of vessel ✓

**General Remarks** (State quality of workmanship, opinions as to class, &c. These Engines and Boilers have been constructed under special Survey, of good materials and workmanship, in accordance with the Rules and printed instructions, they are securely and satisfactorily fitted on board and have been seen working well under a full head of steam, and are now eligible in our opinion for Navigation L.M.C 5.25. Fitted for Oil Fuel Flash Point above Electric Light.  
 Note, Oil fuel in this vessel, natural draft only.  
 Sections 34 and 35 of the Rules complied with.  
 Now Forwarded, Forging Report on Shaping.  
 " " " " Connecting + Piston Rods.

It is submitted that this vessel is eligible for THE RECORD. + LMC 5.25. CL.  
 Fitted for oil fuel 5.25. FP. above 150°F.

A.C. Heron  
 E.L. Cartwright  
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee	£ 4 : 0 :	When applied for,
Special	£ 100 : - :	27.5.1925
Donkey Boiler Fee	£ ✓ : - :	When received,
Travelling Expenses (if any)	£ 3 : - :	1.6.1925

CERTIFICATE WRITTEN

Committee's Minute FRI. 31 JUL 1925  
 Assigned + L.M.C. 5.25. CL  
 Fitted for oil fuel 5.25  
 F.P. above 150°F.



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