

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Date of writing Report 23rd Dec. 1944

When handed in at Local Office

Port of

Received at London Office

12 FEB 1945

No. in Survey held at Melbourne.

Date, First Survey 10th Dec. 1941 Last Survey 21st Dec. 1944

on the S.S. RIVER LODDON

(Number of Visits 95)

Built at Williamstown By whom built Commonwealth Naval Dockyard. Yard No. 29

Tons { Gross 4994
Net 2746

Engines made at Melbourne By whom made Commonwealth Marine Engine Works. Engine No. 1. When built 1944-12.

Boilers made at Sydney NSW & Melbourne By whom made Babcock & Wilcox Ltd. Boiler No. 180-181 When made 1944.

Registered Horse Power Recip. 493 Turbine 73 Owners Commonwealth of Australia. Port belonging to Melbourne.

Nom. Horse Power as per Rule 566. 580. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.

Trade for which Vessel is intended International and/or Australian Coastal.

ENGINES, &c.—Description of Engines 3 Cylinder triple expansion with Bauer-Wach exhaust turbine Revs. per minute 85 ✓

Dia. of Cylinders 24 1/2", 40 1/2" & 67" Length of Stroke 48" No. of Cylinders 3. No. of Cranks 3. ✓

Crank shaft, dia. of journals as per Rule 14 1/2" 13.91 for 220 lb as fitted 14 1/8" Crank pin dia. 14 1/8" Crank webs Mid. length breadth 21 1/4" ✓ Thickness parallel to axis 9" ✓

Intermediate Shafts, diameter as per Rule 13 1/4" 13.45" as fitted 13 1/2" ✓ Thrust shaft, diameter at collars as per Rule 14 1/2" 13.91 for 220 lb as fitted 14 1/4" ✓

Tube Shafts, diameter as per Rule 14 1/2" 14.67 ex turbine as fitted 15 1/8" ✓ Is the { tube } shaft fitted with a continuous liner { Yes. ✓

Screw Shaft, diameter as per Rule 14 1/2" 14.67 ex turbine as fitted 15 1/8" ✓ Is the { screw } shaft fitted with a continuous liner { Yes. ✓

Bronze Liners, thickness in way of bushes as per Rule 24 1/2" 24.12/32" as fitted 25/32" ✓ Thickness between bushes as per Rule 18 09/32" as fitted 19/32" ✓ 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 junctions made by fusion through the whole thickness of the liner 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 Yes. ✓

If two liners are fitted, is the shaft lapped or protected between the liners Yes. ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube

shaft No. ✓ If so, state type ✓ Length of Bearing in Stern Bush next to and supporting propeller 5'-0 1/2" ✓

Propeller, dia. 17'-0" Pitch 17'-9" No. of Blades 4 Material Bronze whether Movable Yes. Total Developed Surface 102 sq. feet

Feed Pumps worked from the Main Engines, No. ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Bilge Pumps worked from the Main Engines, No. ✓ Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Feed Pumps { No. and size Two main 12" x 8" x 22" } Deir's ✓ Pumps connected to the { No. and size One Bilge 9" x 10" x 24" and One Ballast 10 1/2" x 12" x 24" } ✓

Pumps { How driven One aux (G.S.) 10 1/2" x 7" x 21" } Steam. Main Bilge Line { How driven Both Deir's Type Steam pumps. } ✓

Ballast Pumps, No. and size { 1 Ballast 10 1/2" x 12" x 24" } ✓ Lubricating Oil Pumps, including Spare Pump, No. and size Two - 8" x 9" x 19" ✓

Are two independent means arranged for circulating water through the Oil Cooler Yes. ✓ Suctions, connected to both Main Bilge Pumps and Auxiliary

Bilge Pumps;—In Engine and Boiler Room E.R. One 3" suction each side, THRUST RECESS—One 2 1/2", B.R. One 3" suction each side.

In Pump Room In Holds, &c. One 3" port & one 3" starbd. in Nos 1, 2, 3 & 4 holds, one 3" in No 5

hold, one 2 1/2" in each transverse cofferdam & tunnel well and one 2" in lubricating oil drain tank cofferdam. ✓

Main Water Circulating Pump Direct Bilge Suctions, No. and size One - 11" dia. ✓ Independent Power Pump Direct Suctions to the Engine Room Bilges,

No. and size One 5" dia. ✓ 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 Sea Connections fitted direct on the skin of the ship Yes. ✓ Are they fitted with Valves or Cocks Valves except Bli. & Evap. blow down cocks.

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes. ✓ Are the Overboard Discharges above or below the deep water line Both. ✓

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 pass through the bunkers Bilge suction to No 1, 2 & 3 Holds & F.P. fresh water suction How are they protected 1/4" steel plate casings. ✓

What pipes pass through the deep tanks None. ✓ Have they been tested as per Rule Yes. ✓

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 Shaft Tunnel watertight Yes. ✓ Is it fitted with a watertight door Yes. ✓ worked from Engine Room at

2nd deck level. ✓

MAIN BOILERS, &c.—(Letter for record) Total Heating Surface of Boilers 7212 sq. feet. ✓

Is Forced Draft fitted Yes. ✓ No. and Description of Boilers 2 W.T. (3 & W. type) Working Pressure 240 lbs (Std. 220 lbs) ✓

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes. ✓ (Designed superheater W.P. 230 lbs)

IS A DONKEY BOILER FITTED? No. ✓ If so, is a report now forwarded? ✓

Is the donkey boiler intended to be used for domestic purposes only ✓

PLANS. Are approved plans forwarded herewith for Shafting

(If not state date of approval) Approval of plans arranged by Principal Surveyor at Sydney NSW as for Sister Ships

Superheaters General Pumping Arrangements Oil fuel Burning Piping Arrangements as over.

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes. ✓

State the principal additional spare gear supplied. Standard spare gear as supplied to sister ships as over.

The foregoing is a correct description,

Manufacturer.

Commonwealth Government Marine Engine Works
A. Macfarlane
Manager.

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Lloyd's Register
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1941 10 Dec. 1942 24, 25, 27 Feb. 9, 12, 16 March, 16, 22, 23, 29 April, 8 May, 18 June, 28 July, 30, 26 Aug, 10, 29 Sept., 2, 15 Oct., 4, 5, 20, 23 Nov.
 During progress of work in shops - 1943 18, 26 Jan, 4, 6, 10 Feb, 7, 8 April, 10 May, 2, 10, 21 June, 15 July, 16, 17, 25 Aug, 1, 3, 13 Sept, 7 Oct, 20 Nov, 9 Dec.
 1944 7, 27 Jan, 2, 28 Feb, 16, 17, 23, 29, 30 March, 4, 13, 20, 24 April.
 Dates of Survey while building - 1943 24 May, 24 June, 23 July, 13 Aug, 9, 21, 29 Sept, 19 Oct, 2, 20 Nov, 22 Dec.
 During erection on board vessel - 1944 11, 12, 21 Jan, 9 Feb, 27 March, 13, 17 April, 17, 30 May, 8 June, 20 July, 1, 10, 21, 30 Aug, 6, 8, 12, 20 Sept, 20, 24 Oct, 7, 9, 14, 18, 21 Dec.
 Total No. of visits 95.

H.P. I.P. L.P. H.P. I.P. L.P.
 Dates of Examination of principal parts—Cylinders 13/9/43, 25/8/43 7/10/43 Slides 7/1/44. Covers 13/9/43, 25/8/43, 7/10/43.
 Pistons 7/1/44. Piston Rods *Newcastle N.S.W.* 30/3/42, Incl. 30/3/44. Connecting rods *Newcastle N.S.W.* 1/5/43, Incl. 30/3/44.
 Crank shaft 26/1/43. Thrust shaft 24/4/44. Intermediate shafts 17/8/43.
 Tube shaft ✓ Screw shaft 23/3/44. Propeller 21/1/44.
 Stern tube 9/2/44. Engine and boiler seatings 24/5/43, 24/6/43. Engines holding down bolts 20/7/44, 10/8/44.
 Completion of fitting sea connections 20/4/43.
 Completion of pumping arrangements 20/9/44. Boilers fixed 11 2 12 1/4 1/44. Engines tried under steam 14/12/44.
 Main boiler safety valves adjusted 2 & 7/11/44. Thickness of adjusting washers STD. " 3/4 " " 1/16 " 21/32 "
 Crank shaft material MILD STEEL. Identification Mark B.P.F. 26/1/43. Thrust shaft material MILD STEEL Identification Mark B.P.F. 24/4/44
 Intermediate shafts, material MILD STEEL Identification Marks B.P.F. 17/8/43. Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material MILD STEEL Identification Mark B.P.F. 23/3/44 Steam Pipes, material MILD STEEL Test pressure 720 lbs. Date of Test 22/12/43 to 9/2/44.
 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 the use of oil as fuel been complied with Yes. ✓
 Is the vessel (not being an oil tanker) fitted for carrying oil as cargo No. ✓ If so, have the requirements of the Rules been complied with ✓
 If the notation for Ice Strengthening is desired, state whether the requirements in this respect have been complied with ✓
 Is this machinery duplicate of a previous case Yes. ✓ If so, state name of vessel "RIVER CLARENCE", "RIVER BURDEKIN"
 "RIVER GLENELG", "RIVER DERWENT".

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

This machinery has been built in conformity with the Society's Rules and Regulations and the Secretary's letters. The scantlings and arrangements are in accordance with those shown on the approved plans. The materials and workmanship are of good quality and to our satisfaction. The machinery has been properly installed in the vessel, tested under working conditions and found satisfactory.

In our opinion the machinery is eligible to be classed with the following records and notations to be made in the Register Book :-

+ L.M.C. 12'44, T.S.(C.L.), 2 W.T. BOILERS 240 LBS (SPT. 220 LBS), F.D.
 One L.P. Turbine with D.R. Gearing. Fitted for Oil fuel 12'44 F.P. above 150°F.

* Ends of superheater safety valve springs were re-ground after sea trials and these valves were re-adjusted on 21st December 1944.
 Final thickness of adjusting washers - Port Boiler superheater safety valve 3/4 " 9/16 "

The amount of Entry Fee ... £ 7 : 10 :
 Special ... £ 256 : 12 :
 Donkey Boiler Fee ... £ ✓ : :
 Travelling Expenses (if any) £ 50 : 0 :
 When applied for, 19
 When received, 19

Committee's Minute

Assigned + LMC 12.44 F.D. C.L.
 FITTED FOR OIL FUEL 12'44 FLASH POINT ABOVE 160° F. 2 WTB 240lb (Spt. 220lb)

B. P. Fielden P. A. McIntyre & J. H. Murray
 Engineer Surveyors to Lloyd's Register of Shipping.

FRI. 16 FEB 1945



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