

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 9th Sept 1944 When handed in at Local Office 10 Port of Sydney, N. S. W.
 No. in Survey held at Port Kembla, Syd, Mel. & Whyalla Date, First Survey 23rd Nov 1942 Last Survey 7th Sept 1944
 Reg. Book. on the single screw steamer "RIVER DERWENT" (Number of Visits 76)
 Built at Whyalla By whom built Broken Hill Pty Co. Ltd Yard No. 5 Tons { Gross 5109
 Engines made at Port Kembla N.S.W. By whom made Australian Iron & Steel Ltd Engine No. 5 Net 2681
 Boilers made at Newcastle N.S.W. By whom made Broken Hill Pty Co. Ltd Boiler No. ✓ when made 1944
 Registered Horse Power Recip 493 ✓ Owners Commonwealth of Australia Port belonging to Port Adelaide
 Nom. Horse Power as per Rule 566 ✓ Is Refrigerating Machinery fitted for cargo purposes No ✓ Is Electric Light fitted Yes ✓

ENGINES, &c.—Description of Engines Triple expansion with Bauer-Wach Exhaust Turbine
 Dia. of Cylinders 24½, 40½, 67 Length of Stroke 48 ✓ Revs. per minute 85 ✓ No. of Cylinders 3 ✓ No. of Cranks 3 ✓
 Dia. of Crank shaft journals as per rule 14.078" 13.91 for 220lb ✓ Mid. length breadth 21¾" ✓ Thickness parallel to axis 9 ✓
 as fitted 14½" ✓ Dia. of Crank pin 17½" ✓ Crank webs Mid. length thickness 9" ✓ shrunk Thickness around eye-hole 6¾" ✓
 Diameter of Thrust shaft under collars as per rule 15.078" 13.91 ex turbine ✓ as per rule 13.4" ✓ Diameter of Tunnel shaft as per rule 14.67 ex turbine ✓ Is the Screw shaft
 as fitted 14½" ✓ as fitted 13½" ✓ as fitted 15½" ✓
 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 ✓ (Liner thickness 25" & 19") ✓ 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 ✓
 If two liners are fitted, is the shaft lapped or protected between the liners ✓ Is an approved appliance fitted at the after end of the shaft to permit
 of it being efficiently lubricated ✓ Length of Stern Bush 5' 0½" ✓ Diameter of Propeller 17' 0" ✓
 Pitch of Propeller 16' 9" (average) No. of Blades 4 ✓ State whether Moveable Yes ✓ Total Surface 102 ✓ square feet.
 No. of Feed Pumps fitted to the Main Engines ✓ Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 No. of Bilge Pumps fitted to the Main Engines ✓ Diameter of ditto ✓ Stroke ✓ Can one be overhauled while the other is at work ✓
 Total number and size of power driven Feed and Bilge Auxiliary Pumps TWO MAIN FEED - 12" & 8" x 22", ONE GEN SERVICE (Aux feed) 10½" & 7" x 21" ✓
ONE BILGE - 9" & 10" x 24", ONE BALLAST (Con. to Bilge Main) 10½" & 12" x 24" ✓
 No. and size of Pumps connected to the Main Bilge Line ONE BILGE 9" & 10" x 24" & ONE BALLAST 10½" & 12" x 24" ✓
 No. and size of Ballast Pumps { 1 BALLAST 10½" & 12" x 24" ✓
{ 1 GEN SERVICE 10½" & 7" x 21" ✓ No. and size of Lubricating Oil Pumps, including Spare Pump Two - 8" & 9" x 18" ✓
 Are two independent means arranged for circulating water through the Oil Cooler Yes ✓ No. and size of suctions connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps;—In Engine and Boiler Room, Eng Room - Two 3", Boiler Rm - Two 3" in Holds, &c. Thrust recess - One 2½" ✓
In Holds :- One 3" port & One 3" starb^d in all holds (Nos 1, 2, 3, 4 & 5.) One 2½" port & starb^d sides
of cofferdams & One 2½" in tunnel well. ✓
 No. and size of Main Water Circulating Pump Bilge Suctions One 11" dia ✓ No. and size of Donkey Pump Direct Suctions
 to the Engine Room Bilges 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 connections with the sea direct on the skin of the ship Yes ✓ Are they Valves or Cocks All Valves (except Bl^r & 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 Discharge Pipes 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 are carried through the bunkers Steam & Exh for Winches ✓ How are they protected ¼" Steel covering plate casing ✓
 Are all Pipes, Cocks, Valves, and Pumps in connecti 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 Eng Room at
level of 2nd Dk. ✓

MAIN BOILERS, &c.—(Letter for record ✓) Total Heating Surface of Boilers 7212 sq ft ✓
 Is Forced Draft fitted Yes ✓ No. and Description of Boilers 2 W.T. (B & W type) ✓ Working Pressure 240 lbs
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes ✓ (Sept 22/46)
 IS A DONKEY BOILER FITTED? No. ✓ If so, is a report now forwarded? ✓
 PLANS. Are approved plans forwarded herewith for Shafting No Main Boilers 26/8/41 Auxiliary Boilers ✓ Donkey Boilers ✓
 (If not state date of approval) See Secretary's letter E.28. 10/2/42 forwarding copies of Plans for S.S. BURNSIDE
 General Pumping Arrangements Approved 1/6/42 Oil fuel Burning Piping Arrangements 3/7/41
 SPARE GEAR. State the articles supplied:—As per Rules, (See list forwarded with F.E. Rpt No 19252 on S.S. RIVER CLARENCE).

The foregoing is a correct description, for Main Engines only,
 For: AUSTRALIAN IRON & STEEL LTD.,

General Manager Manufacturer.
 General Manager.



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Lloyd's Register
 Foundation

003525-003532-0078

1942:- Nov 23, Dec 30, 1943:- Jan 4, 15, 18, 25 Feb 8, 16, 18 March 1, 9, 10, 19, 22
 April 5, 6, 14, 20, 29 May 17, 18, 19, 27 June 3, 9, 10, 16, 18, 25 July 13, 14, 28, Aug 9, 20
 Sept 8, 23, 24, Oct 21 Nov 9
 1944:- Feb 9, 13, 25, 28, 29, March 1, 2, 6, 10, 13, 16, 20 April 11, 15, 21 May 12, 15, 18, 31
 June 3, 9, 14, 19, 22, 29 July 4, 5, Aug 4, 14, 15, 16, 17, 21, 25, 30 Sept 1, 7.
 Total No. of visits

Dates of Examination of principal parts - Cylinders ^{H.P.} 25/1/43, ^{M.P.} 6/4/43, ^{L.P.} 6/4/43 Slides 20/8/43
 Covers 20/8/43 Pistons 20/8/43 Rods 8/9/43
 Connecting rods 8/9/43 Crank shaft 8/9/43 Thrust shaft 26/11/43
 Tunnel shafts 25/6/43 - 28/10/43 Screw shaft 26/6/42 Propeller 20/3/44
 Stern tube 1/3/44 Engine and boiler seatings 6/3/44 Engines holding down bolts 18/5/44
 Completion of pumping arrangements 31/7/44 Boilers fixed 5/7/44 Engines tried under steam 30/7/44
 Completion of fitting sea connections 20/3/44 Stern tube 10/3/44 Screw shaft and propeller 16/3/44
 Main boiler safety valves adjusted 16/8/44 Thickness of adjusting washers { Port Boiler INBOARD .63" OUTBOARD .45" SUPERHEATER .69" Starb'd .50" .56" .80"
 Material of Crank shaft Mild Steel Identification Mark on Do. HP & MP LLOYDS No 231, L.P. No 232, CRM 8/9/43
 Material of Thrust shaft " " Identification Mark on Do. LLOYDS No 316/1 P.R. No. 26/11/43.
 Material of Tunnel shafts " " Identification Marks on Do. LLOYDS No 2272, 1398 1/2, 1419 1/2, C14654, F 50224, D 1398 28/10/43 ← → 28/10/43, 25/6/43
 Material of Screw shafts " " Identification Marks on Do. LLOYDS No 2362, E.M.H. 26/6/43, 31/12/43 Spare: " " 17642 " 31/12/43
 Material of Steam Pipes " " Test pressure 720 lbs ✓ Date of Test 9/6/43 to 29/6/43
 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 Yes ✓ If so, state name of vessel "RIVER GLENELG" (etc.)

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The Machinery of this Vessel has been built under Special Survey in accordance with the Rules and Approved Plans. The materials and workmanship are good. The Installation has been fitted on board in an efficient manner, tested under working conditions and found satisfactory, and is now eligible in our opinion to be classed in the Society's Register Book, with record of F LMC 9, 44 T.S. (C.L.) and the Notations of 2 W.T. Boilers 240 lbs (Spt 220 lbs) F.D., One L.P. Turbine with D.R. gearing & hydraulic coupling. Fitted for Oil Fuel 9, 44 F.P. above 150° F.

The amount of Entry Fee ... £ 7 : 10 : When applied for,
 Special ... £ 206 : 12 : 19
 Donkey Boiler Fee ... £ : : When received,
 Travelling Expenses (if any) £ 50 : 0 : 19

[Signature] & [Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 3 NOV 1944

Committee's Minute
 Assigned

+ LMC 9, 44 F.D. CL
 2 WTB 240lb (Spt 220lb)



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