

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office  
 Date of writing Report 11<sup>th</sup> July 1924 When handed in at Local Office 17<sup>th</sup> July 1924 Port of West Hartlepool  
 No. in Survey held at Hartlepool Date, First Survey 6 Feb'y Last Survey 15<sup>th</sup> July 1924  
 Reg. Book. on the S.S. "LETHBRIDGE" (Number of Visits 49)  
 Built at Middlesbrough By whom built Furness S.T.B. Co. Ltd. Yard No. 69 When built 1924  
 Engines made at Hartlepool By whom made Richardsons Westgarth & Co. Ltd. Engine No. 2646 when made 1924  
 Boilers made at ditto By whom made ditto Boiler No. 2646 when made 1924  
 Registered Horse Power Owners Steamship Co. Port belonging to London  
 Nom. Horse Power as per Rule 195. Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion  
 Dia. of Cylinders 18" 30" 50" Length of Stroke 36" Revs. per minute 86 No. of Cylinders 3 No. of Cranks 3  
 Dia. of Crank shaft journals as per rule 7.86" as fitted 10" Dia. of Crank pin 10 1/2" Crank webs Mid. length breadth 15 3/4" Thickness parallel to axis 6 1/2"  
 Diameter of Thrust shaft under collars as per rule 7.86" 9.86" Old rule 9.39" 7.49" Mid. length thickness 6 1/2" Thickness around eye-hole 4 3/4"  
 Diameter of Tunnel shaft as fitted none Diameter of Screw shaft as fitted 11" 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 port 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. Is an approved appliance fitted at the after end of the shaft to permit of it being efficiently lubricated no Length of Stern Bush 3' 8 1/4" Diameter of Propeller 12' 9"  
 Pitch of Propeller 12' 7" No. of Blades 4 State whether Moveable yes Total Surface 56 square feet.  
 No. of Feed Pumps fitted to the Main Engines 2 Diameter of ditto Stroke 3 1/2" 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 20" Can one be overhauled while the other is at work yes  
 Total number and size of power driven Feed and Bilge Auxiliary Pumps 2 main feed 7' 5" x 12" single 1 General 8' 5" x 8" duplex 1 Ball 9' 10" x 10" duplex  
 No. and size of Pumps connected to the Main Bilge Line 2 main 3 1/2" x 20" 1 Ballast 9' 10" x 10" duplex  
 No. and size of Ballast Pumps 1. 9' 10" x 10" duplex No. and size of Lubricating Oil Pumps, including Spare Pump  
 Are two independent means arranged for circulating water through the Oil Cooler No. and size of suction connected to both Main Bilge Pumps and Auxiliary Bilge Pumps;—In Engine and Boiler Room 3 of 2 1/2" x 1 of 3 1/2" main pumps only in Holds, &c. No 1 hold 2 of 2 1/2"  
 No 2 hold 2 of 2 1/2" No 3 hold 2 of 2 1/2"

No. and size of Main Water Circulating Pump Bilge Suctions 1 7" No. and size of Donkey Pump Direct Suctions  
 to the Engine Room Bilges 1 3 1/2" 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  
 Are they size 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  
 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 none How are they protected  
 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 none Is it fitted with a watertight door worked from

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 3412 sq ft  
 Is Forced Draft fitted no No. and Description of Boilers 2 single ended Working Pressure 185 lbs

IS A REPORT ON MAIN BOILERS NOW FORWARDED?

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting Main Boilers Auxiliary Boilers Donkey Boilers  
 (If not state date of approval)

General Pumping Arrangements

Oil fuel Burning Piping Arrangements

SPARE GEAR. State the articles supplied:— 2 bolts & nuts for piston rods, connecting rods & main bearings 1 set ditto for couplings 1 set feed & bilge pump valves 2 feed check valves 2 safety valve springs 4 propeller blades. assorted bolts, nuts and iron.

The foregoing is a correct description,  
 FOR RICHARDSONS, WESTGARTH & CO. LIMITED.

Manufacturer.



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Lloyd's Register  
 Foundation

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1924. Feb 6. 28. Mar 5. 11. 12. 14. 17. 18. 20. 27. 31. Apr 1. 4. 8. 16. 23. 28. May 2. 6. 9. 13. 19. 20. Jun 2. 3.  
 During progress of work in shops - - 17. 13. 16. 17. 18. 19. 20. 23. 27. 30. July 1. 3. 3. 4. 7. 7. 8. 9. 11. 11. 14. 15. 16. 17.  
 Dates of Survey while building During erection on board vessel - - -  
 Total No. of visits 49.

Dates of Examination of principal parts - Cylinders 12. 3. 24 - 23. 6. 24 Slides 20. 5. 24  
 Covers 6. 5. 24 - 20. 5. 24 Pistons 6. 5. 24 - 20. 5. 24 Rods 14. 3. 24 - 6. 5. 24  
 Connecting rods 18. 3. 24 - 20. 5. 24 Crank shaft 11. 3. 24 - 14. 5. 24 Thrust shaft 27. 3. 24 - 3. 6. 24  
 Tunnel shafts ✓ Screw shaft 13. 6. 24 - 20. 6. 24 Propeller 27. 6. 24  
 Stern tube 8. 4. 24 - 27. 6. 24 Engine and boiler seatings 3. 7. 24 Engines holding down bolts 9. 7. 24  
 Completion of pumping arrangements 16/7/24 Boilers fixed 9. 7. 24 Engines tried under steam 16/7/24  
 Completion of fitting sea connections Middlesbro. Stern tube 3. 7. 24 Screw shaft and propeller 3. 7. 24  
 Main boiler safety valves adjusted 16/7/24 Thickness of adjusting washers Port B 13/32" 1/32" Star B 13/32" 3/8"  
 Material of Crank shaft Ingot steel Identification Mark on Do. 4487D  
 Material of Thrust shaft ditto Identification Mark on Do. 4487D  
 Material of Tunnel shafts None Identification Marks on Do. ✓  
 Material of Screw shafts Ingot steel Identification Marks on Do. 4487D  
 Material of Steam Pipes S.D. Copper ✓ Test pressure 370 ✓ Date of Test 4. 7. 24 ✓  
 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 the Rules for carrying and burning oil fuel been complied with ✓  
 Is this machinery duplicate of a previous case Yes ✓ If so, state name of vessel "Ramloops" ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 A feed heater fitted, the body of which, and the coils & headers have been tested with a hydraulic pressure of 400 lb.  
 This vessel's machinery has been built and installed under Special Survey. The materials and workmanship are good.  
 The machinery of this vessel is now in our opinion eligible for record L.M.C. 7. 24 (in red) in register book, it having been tested under working conditions and found satisfactory.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7. 24. CL.

R.D. Shilston  
 21/7/24

The amount of Entry Fee ... £ 3 : 0 :  
 Special ... £ 48 : 15 :  
 Donkey Boiler Fee ... £ :  
 Travelling Expenses (if any) £ :  
 When applied for, 18 July 1924.  
 When received, 24. 7. 24.

R.D. Shilston & G. Murdoch  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 19 AUG 1924  
 Assigned + L.M.C. 7. 24. C.L.