

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY

Received at London Office

WED. 7 MAY. 1924

Date of writing Report 2nd May 1924 When handed in at Local Office 2nd May 1924 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle & Hebburn Date, First Survey 28th Sept. 1922 Last Survey 2nd May 1924
Reg. Book. 41147 on the Steel S. S. Tilawa. (Number of Visits 96)

Built at Hebburn on Tyne By whom built R. W. Hawthorn Leslie & Co. Ltd Ward No. 530 When built 1924

Engines made at St. Peter, Newcastle By whom made R. W. Hawthorn & Co. Engine No. 3512 when made 1924

Boilers made at do do By whom made do do Boiler No. 3512 when made 1924

Registered Horse Power 900 Owners British India Steam Nav Co. Ltd Port belonging to Glasgow

Nom. Horse Power as per Rule 900 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes.

ENGINES, &c.—Description of Engines Quadruple Expansion.

Dia. of Cylinder 29.4 1/2, 59, 85 Length of Stroke 54 Revs. per minute 78 No. of Cylinders 4 No. of Cranks 4

Dia. of Crank shaft journals as per rule 16.07 Dia. of Crank pin 17" hole Crank webs Mid. length breadth 31 1/4 Thickness parallel to axis 10 3/4
as fitted 16 3/4 Mid. length thickness 10 3/4 shrunk Thickness around eye-hole 7 1/2

Diameter of Thrust shaft under collars as per rule 16.07 Diameter of Tunnel shaft as per rule 15.33 Diameter of Screw shaft as per rule 16.6
as fitted 16 3/4 as fitted 15 3/4 as fitted 17 1/2 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 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 appliance fitted at the after end of the shaft to permit

of it being efficiently lubricated No Length of Stern Bush 78" Diameter of Propeller 19-6"

Pitch of Propeller 17-9" No. of Blades 4 State whether Moveable yes Total Surface 125 sq ft square feet.

No. of Feed Pumps fitted to the Main Engines 2 Diameter of ditto 5" Stroke 27" Can one be overhauled while the other is at work yes

No. of Bilge Pumps fitted to the Main Engines 2 Diameter of ditto 5 1/2" Stroke 27" Can one be overhauled while the other is at work yes

Total number and size of power driven Feed and Bilge Auxiliary Pumps one 10" x 13 1/2" x 24", one Turbo and one Aux 6" x 8 1/2" x 18"

No. and size of Pumps connected to the Main Bilge Line one 12" x 12" x 12", one 12" x 8" x 10" & one emergency motor 100 tons per hour

No. and size of Ballast Pumps one 12" x 12" x 12" No. and size of Lubricating Oil Pumps, including Spare Pump None.

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 three 3 1/2", one 5" and one 3" diam and in Holds, &c. one 3" in No. 1, three 3" in

No. 2 & 3, two 3" in No. 4, one 3" in No. 5 and one 3" in tunnel well

No. and size of Main Water Circulating Pump Bilge Suctions one 12" No. and size of Donkey Pump Direct Suctions

to the Engine Room Bilges two 5 1/4" 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 Some on Cofferdam Are they Valves or Cocks Both

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

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 Pipes to forward holds How are they protected Wood boxing

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 (Clones) Engine room

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 13900 sq ft (13792 sq ft) top & bottom platforms

Forced Draft fitted yes No. and Description of Boilers 4 Single Ended Working Pressure 215 lbs p.s.i.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes

IS A DONKEY BOILER FITTED? No If so is a report now forwarded? yes

PLANS. Are approved plans forwarded herewith for Shafting yes Main Boilers yes Auxiliary Boilers None Donkey Boilers None

(If not state date of approval) Oil fuel Burning Piping Arrangements None fitted.

General Pumping Arrangements yes

SPARE GEAR. State the articles supplied:—As required by the rules, also one set of H.P. & I.P.

2nd I.P. & 2nd Piston rings and springs, a set of H.P. & I.P. piston valve packing

one pair of crank pin bushes, 2 pairs top end bushes, one set eccentric straps with bolts

and distance pieces, one H.P. valve rod, 6 thrust pads, one air pump bucket, rod

and head valve, one bronze impeller and shaft for main circulating pump, one

set of suction and discharge valves for ballast pump, 2 bucket rings, 8 sets of

valves & group valve springs for Aux feed pump, one pump impeller, set of packing

rings, set of bearings and non-corrodible shaft for turbo feed pump, one set of top &

bottom end brasses for fan engine, one propeller shaft, one bronze blade, two

main safety valve springs, a few boiler and condenser tubes, one piston valve

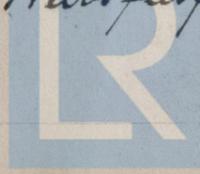
chest complete, one suction & one discharge valve seat, 58 metre valves, 4 bucket rings

25 group valve springs for H.P. feed pumps etc.

The foregoing is a correct description

FOR R. & W. HAWTHORN, LESLIE & Co. Ltd

R. W. Hawthorn



Lloyd's Register Foundation

Is a Report also sent on the HULL of the ship? If not, state whether, and when, one will be sent?

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1922 1923

During progress of work in shops - - *Sep. 28. Oct. 5. 19. Nov. 21. 28. Dec. 5. 12. 28. Jan. 9. 25. Feb. 5. 9. 13. 21. 26. Mar. 13. 20. 22. Apr. 4.*

Dates of Survey while building *16. 18. 24. 27. May 2. 4. 9. 12. 17. 18. 28. 29. June 5. 8. 11. 13. 15. 21. July 2. 10. 19. 23. 24. 30. 31. Aug. 2. 8. 10.*

During erection on board vessel - - *22. 27. 29. Sep. 4. 5. 6. 10. 12. 14. Oct. 2. 11. 15. 18. 25. 30. Nov. 9. 13. 16. 20. 26. Jan. 9. 21. Feb. 1. 5. 8. 11.*

Total No. of visits *96.*

Dates of Examination of principal parts - Cylinders *3/5, 17/5, 5/6, 11/6 21/6/23* Slides *9/5, 24/7/23.*

Covers *28/5, 21/6/23.* Pistons *31/7/23.* Rods *9/5, 5/6/23.*

Connecting rods *9/5, 5/6/23* Crank shaft *9/5, 17/5/23* *also Lu* Thrust shaft *14/1/24.*

Tunnel shafts *14/1/24* Screw shaft *13/6/23 9/1/24* Propeller *27/8 10/9/23, 9/1 + 22/4/24.*

Stern tube *23/6, 22/8/23, 9/1/24* Engine and boiler seatings *19/2, 29/3/24* Engines holding down bolts *19/2, 31/2, 7/4/24.*

Completion of pumping arrangements *15/4/24* Boilers fixed *19/3/24* Engines tried under steam *15/4/24*

Completion of fitting sea connections *21/1, 5/2, 8/2, 12/2/24* Stern tube *21/1, 5/2, 8/2, 13/2, 19/2/24* Screw shaft and propeller *5/2, 8/2, 13/2, 19/2*

Main boiler safety valves adjusted *15/4/24* Thickness of adjusting washer *Port 5/16 + 3/8" Star 15/32 + 13/32, 15/8, 13/32*

Material of Crank shaft *S. M. Steel.* Identification Mark on Do. *L118 D. MR.*

Material of Thrust shaft *do.* Identification Mark on Do. *6397. N. 14/1/24 G.M.*

Material of Tunnel shafts *do.* Identification Marks on Do. *6397 N 14/1/24 G.M.*

Material of Screw shafts *do.* Identification Marks on Do. *6397. N. 14/1/24 G.M.*

Material of Steam Pipes *Steel - copper* Test pressure *645 + 430 lbs* Date of Test *2/10, 1/2/24 + 25/3/24*

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 *S.S. Palma.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under special survey, the materials and workmanship are of good quality, it has been securely fixed on board and satisfactorily tested under full steam pressure. In my opinion the machinery of this vessel is now eligible for record L.M.C. 5. 24 (in red) in the register book.*

Boiler plans, engine room pipe arrangements, steam pipe arrangements, plan of main stop valve pads, C & B space pumping arrangements No. 192, Crapinator, fuel heater & filter reports, boiler plate, bars & furnace rivets, steel forgings & casting reports, report on safety valves, plans of crank & intermediate shafts now forwarded.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5. 24 F.D. C.L.

7/5/24 *G.P.H.*

The amount of Entry Fee ... £ *6 : 0* : When applied for, *3 MAY 1924*

Special ... £ *120 : 0* : 19

Donkey Boiler Fee ... £ *✓* : When received, *19*

Travelling Expenses (if any) £ *✓* : *19*

Committee's Minute *31 MAY 1924*

Assigned *L.M.C. 5. 24*
E. D. C.L.

George Murdoch
Engineer Surveyor to Lloyd's Register of Shipping



NEWCASTLE-ON-TYNE

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

CERTIFICATE WRITTEN