

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

No. 33287

Received at London Office - 7 JAN 1942

Date of writing Report 19 When handed in at Local Office 5 JAN 1942 Port of SUNDERLAND.  
 No. in Survey held at SUNDERLAND. Date, First Survey 13 May 41 Last Survey 2 Jan 1942  
 Reg. Book. on the S.S. 'EMPIRE NEWTON' (Number of Visits 82)  
 Built at Sunderland By whom built Short Bros Ltd Yard No. 468 Tons { Gross 7037  
 Engines made at do. By whom made R.S. Mac. Eng. Co. (1938) Ltd Engine No. 4004 When built 1942  
 Boilers made at do. By whom made M.O.W.T do Boiler No. 4004 When made 1942  
 Registered Horse Power 510 Owners U.S. Sackville & Co Port belonging to Sunderland.  
 Nom. Horse Power as per Rule 510 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes  
 Trade for which Vessel is intended General

**ENGINES, &c.**—Description of Engines Triple Expansion Revs. per minute 3  
 Dia. of Cylinders 24 1/2", 39", 70" Length of Stroke 48" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule appd. 14.00 Crank pin dia. 14 3/4" Crank webs Mid. length breadth shrunk Thickness parallel to axis 9"  
 as fitted 14 1/4" Mid. length thickness shrunk Thickness around eye-hole 6 3/8"  
 Intermediate Shafts, diameter as per Rule appd. 13.32 Thrust shaft, diameter at collars as per Rule appd. 14.00  
 as fitted 13.58" as fitted 14 1/4"  
 Tube Shafts, diameter as per Rule appd. Screw Shaft, diameter as per Rule appd. Is the tube screw shaft fitted with a continuous liner yes  
 as fitted 15 1/4" as fitted 15 1/4"  
 Bronze Liners, thickness in way of bushes as per Rule appd. Thickness between bushes as per Rule appd. Is the after end of the liner made watertight in the  
 as fitted 13 1/8" & 25/32" as fitted 21/32" 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 no  
 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 no  
 If two liners are fitted, is the shaft lapped or protected between the liners no Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft no If so, state type no Length of Bearing in Stern Bush next to and supporting propeller 5'-1"  
 Propeller, dia. 17'-10 1/2" Pitch 15'-6" No. of Blades 4 Material C.I. whether Moveable not Total Developed Surface 114 3/4 sq. feet  
 Feed Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 27" Can one be overhauled while the other is at work yes  
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 27" Can one be overhauled while the other is at work yes  
 Feed Pumps { No. and size 2, 9 1/2" x 7" x 21" Pumps connected to the Main Bilge Line { No. and size 1, 10 1/2" x 13" x 24"; 1, 9 1/2" x 7" x 21"  
 How driven Steam How driven no  
 Ballast Pumps, No. and size 1, 10 1/2" x 13" x 24" Lubricating Oil Pumps, including Spare Pump, No. and size no  
 Are two independent means arranged for circulating water through the Oil Cooler no Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Bilge Pumps;—In Engine and Boiler Room aft 2 & 3" dia. Dry tank 2 & 2 1/2" dia. Boiler Room 2 & 3" dia.  
 In Pump Room 1 & 2 1/2" dia. Tunnel well. In Holds, &c. 2 & 3" dia. in Nos 1, 2, 3, 4 & 5 Holds

**Main Water Circulating Pump Direct Bilge Suctions, No. and size** 1 & 2 1/2" dia. **Independent Power Pump Direct Suctions to the Engine Room Bilges,**  
 No. and size 1 & 2 1/2" dia. & 3" 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 yes  
 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 fixed hold suction How are they protected bilge timber  
 What pipes pass through the deep tanks no Have they been tested as per Rule no  
 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 no worked from no

**MAIN BOILERS, &c.**—(Letter for record S) Total Heating Surface of Boilers 7248 sq ft  
 Is Forced Draft fitted yes No. and Description of Boilers 3, S.E. cylindrical Working Pressure 220 lbs  
**IS A REPORT ON MAIN BOILERS NOW FORWARDED?** yes  
**IS A DONKEY BOILER FITTED?** no If so, is a report now forwarded? no  
 Is the donkey boiler intended to be used for domestic purposes only no

**PLANS.** Are approved plans forwarded herewith for Shafting 27/1/41 Main Boilers no Auxiliary Boilers no Donkey Boilers no  
 Superheaters no General Pumping Arrangements no Oil fuel Burning Piping Arrangements no

**SPARE GEAR.**  
 Has the spare gear required by the Rules been supplied yes  
 State the principal additional spare gear supplied no

The foregoing is a correct description,  
 THE NORTH EASTERN MARINE ENGINEERING CO. (1888) LTD.  
 J. H. Hulst  
 Manufacturer.  
 RESIDENT MANAGER.



Dates of Survey while building:
   
 During progress of work in shops: 1941. May 13, 20. June 12, 23, 25, 26, 27. July 8, 11, 14, 18, 19, 31. Aug. 5, 6, 7, 8, 11, 12, 13, 14, 15, 26, 27.
   
 During erection on board vessel: Sep. 1, 3, 4, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 22, 24, 26, 29, 30. Oct. 1, 2, 3, 6, 7, 8, 9, 13, 14, 15, 16, 17, 20, 21, 23, 24.
   
 25, 28, 31. Nov. 3, 6, 7, 11, 12, 13, 14, 17, 18, 20, 21, 23, 24, 25, 29. Dec. 10, 17, 29, 30. 1942. Jan. 2.
   
 Total No. of visits: 82

Dates of Examination of principal parts—Cylinders 6, 16 & 24/10/41 Slides 25/10/41 Covers 24/10/41
   
 Pistons 25/10/41 Piston Rods 25/10/41 Connecting rods 16/10/41
   
 Crank shaft 3/10/41 Thrust shaft 24/10/41 Intermediate shafts 17/11/41
   
 Tube shaft — Screw shaft 24/10/41 Propeller 3/11/41
   
 Stern tube 2/10/41 Engine and boiler seatings 2/10/41 Engines holding down bolts 17/12/41
   
 Completion of fitting sea connections 2/10/41
   
 Completion of pumping arrangements 30/12/41 Boilers fixed 14/11/41 Engines tried under steam 25-11-41, 30-12-41.
   
 Main boiler safety valves adjusted 25/11/41 Thickness of adjusting washers Port 1 1/2" std 5/16" Port; Centre 9/32" std; Std 5/16" std.
   
 Crank shaft material Steel Identification Mark 5164/5 Thrust shaft material Steel Identification Mark 5264
   
 Intermediate shafts, material Steel Identification Marks 5265, 6, 7, 8 Tube shaft, material — Identification Mark —
   
 Screw shaft, material Steel Identification Mark 5265 Steam Pipes, material Steel Test pressure 66 lbs. Date of Test 11-11-41 to 24-11-41
   
 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 the use of oil as fuel been complied with —
   
 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 not required
   
 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.)

The machinery of this vessel has been constructed under Special Survey in accordance with the approved plans, Secretary's letters and the requirements of the Rules. Workmanship and materials are good. The machinery has been efficiently fitted on board and tried under working conditions with satisfactory results and is eligible in my opinion for the

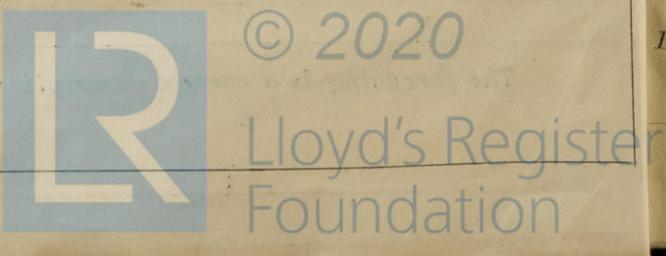
NOTATION + L.M.C. 1.42, C.L., 3.S.B. 220 lbs. (F.D.)

*L. R. Thomas*

The amount of Entry Fee ... £ 6 : — : When applied for,
   
 Special ... £ 100 : 10 : 5 JAN 1942
   
 Donkey Boiler Fee ... £ : : When received,
   
 Travelling Expenses (if any) £ 25 : 2 : 19

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 23 JAN 1942
   
 Assigned + LMC 1.42
   
 FD Ch



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