

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

No. 33287

Date of writing Report 19 When handed in at Local Office - 5 JAN 1942 Port of SUNDERLAND.  
 Received at London Office - 7 JAN 1942  
 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 H.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 Owners W. H. Cockburn & 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

Dia. of Cylinders 24 1/2", 39", 70" Length of Stroke 48" No. of Cylinders 3 Revs. per minute  
 Crank shaft, dia. of journals as per Rule 14.00 as fitted 14.00 Crank pin dia. 14 3/4" No. of Cranks 3  
 Intermediate Shafts, diameter as per Rule 13.32 as fitted 13.32 Thrust shaft, diameter at collars as per Rule 14.00 as fitted 14.00  
 Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 15 1/4" as fitted 15 1/4" Is the tube screw shaft fitted with a continuous liner? yes  
 Bronze Liners, thickness in way of bushes as per Rule 13 1/2" x 25/32" as fitted 13 1/2" x 25/32" Thickness between bushes as per Rule 21/32" as fitted 21/32" 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  
 If two liners are fitted, is the shaft lapped or protected between the liners Is an approved Oil Gland or other appliance fitted at the after end of the tube  
 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. Diameter Stroke Can one be overhauled while the other is at work  
 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  
 Ballast Pumps, No. and size 1, 10 1/2" x 13" x 24" Lubricating Oil Pumps, including Spare Pump, No. and size  
 Are two independent means arranged for circulating water through the Oil Cooler  
 Bilge Pumps;—In Engine and Boiler Room aft 2 at 3" dia. ; Dry tank 2 at 2 1/2" dia. ; Boiler Room 2 at 3" dia.  
 In Pump Room 1 at 2 1/2" dia. Tunnel well. In Holds, &c. 2 at 3" dia. in Nos. 1, 2, 3, 4 & 5 Holds

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1 at 9" dia. Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1 at 5" dia. & 1/2" 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 plates yes  
 What Pipes pass through the bunkers fixed hold suction How are they protected bilge suction  
 What pipes pass through the deep tanks Have they been tested as per Rule  
 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

## MAIN BOILERS, &c.—(Letter for record S)

Total Heating Surface of Boilers 7248 sq. ft. Working Pressure 220 lbs.

Is Forced Draft fitted yes No. and Description of Boilers 3 S.E. Cylindrical  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? yes  
 IS A DONKEY BOILER FITTED? no If so, is a report now forwarded?

PLANS. Are approved plans forwarded herewith for Shafting 27/1/41 Main Boilers in London Auxiliary Boilers Donkey Boilers  
 (If not state date of approval)  
 Superheaters General Pumping Arrangements in London Oil fuel Burning Piping Arrangements

## SPARE GEAR.

Has the spare gear required by the Rules been supplied yes  
 State the principal additional spare gear supplied

The foregoing is a correct description,

THE NORTH EASTERN MARINE ENGINEERING CO. (1888) LTD.

J. H. Smith

Manufacturer.

RESIDENT MANAGER.



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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 progress of work in shops - - -  
Sept. 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.  
Dates of Survey while building  
During erection on board vessel - - -  
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.  
Main boiler safety valves adjusted 25/11/41 Thickness of adjusting washers Port 1 1/32" std 5/16" Port; Centre 9/32" std 5/16" 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 5269, 5270, 5271 Steam Pipes, material Steel Test pressure 66 lbs. Date of Test 24.11.41 to 11.11.41  
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. Horne

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

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 23 JAN 1942

Assigned + Lmc 1.42  
FD Ch



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