

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 5/9/41 Port of Newcastle-on-Tyne  
 Date of writing Report 19 When handed in at Local Office 5/9/41  
 No. in Survey held at South Shields Date, First Survey 24 Dec/40 Last Survey 26 August 1941  
 Reg. Book. 1052 on the S.S. EMPIRE SCOTT (Number of Visits 91.)  
 Built at S. Shields By whom built J. Readhead & Sons Ltd. Yard No. 523 Tons Gross 6150.37 Net 4185.87  
 Engines made at South Shields By whom made J. Readhead & Sons Ltd. Engine No. 523 When built 1941  
 Boilers made at South Shields By whom made J. Readhead & Sons Ltd. Boiler No. 523 When made 1941  
 Registered Horse Power Owners Ministry of War Transport Port belonging to S. Shields  
 Horse Power as per Rule 415 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 de for which Vessel is intended General Cargo

HINES, & Co. Description of Engines Triple Expansion Revs. per minute 66  
 of Cylinders 24 x 40 x 68 Length of Stroke 45" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 13 1/2" Crank pin dia. 13 1/2" Crank webs Mid. length breadth 11 1/4" Thickness parallel to axis 8 1/2"  
 as fitted 13 1/2" Mid. length thickness 8 1/2" shrunk Thickness around eye-hole 6"  
 Intermediate Shafts, diameter as per Rule 12 1/8" Thrust shaft, diameter at collars as per Rule 13 1/2"  
 as fitted 12 7/8" as fitted 13 1/2"  
 e Shafts, diameter as per Rule 14 3/32" Is the {tube} shaft fitted with a continuous liner { Yes  
 as fitted 14 1/2" as fitted 14 1/2" Is the {screw} shaft fitted with a continuous liner { Yes  
 size Liners, thickness in way of bushes as per Rule .74" Thickness between bushes as per Rule .76"  
 as fitted .76" as fitted .76" Is the after end of the liner made watertight in the  
 liner boss Yes If the liner is in more than one length are the junctions made by fusion through the whole thickness of the liner Yes  
 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  
 o liners are fitted, is the shaft lapped or protected between the liners Yes Is an approved Oil Gland or other appliance fitted at the after end of the tube  
 If so, state type Yes Length of Bearing in Stern Bush next to and supporting propeller 4-10"  
 elli, dia. 17-6" Pitch 17-6" No. of Blades 4 Material C.I. whether Moveable No Total Developed Surface 98 sq. feet  
 Pumps worked from the Main Engines, No. 2 Diameter 4" Stroke 24" Can one be overhauled while the other is at work Yes  
 Pumps worked from the Main Engines, No. 2 Diameter 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes  
 { No. and size (2) 7 x 9 1/2 x 21. (1) 7 x 9 1/2 x 21. Pumps connected to the { No. and size (1) 9 1/2 x 12 x 18. (1) 8 x 11 x 18.  
 { How driven Steam Main Bilge Line { How driven Steam  
 st Pumps, No. and size (1) 9 1/2 x 12 x 18. Lubricating Oil Pumps, including Spare Pump, No. and size Yes  
 o independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Pumps;—In Engine and Boiler Room 3-3" dia. In Holds, &c. N°1 hold 2-3" dia. N°2 hold 2-3" dia. N°3 hold 2-2 1/2" dia.  
 np Room Yes In Holds, &c. N°4 hold 2-3" dia. N°5 hold 2-3" dia. Tunnel well 1-2 1/2" dia.  
 dy tank 2-2 1/2" dia. N°4 hold 2-3" dia. N°5 hold 2-3" dia. Tunnel well 1-2 1/2" dia.  
 Water Circulating Pump Direct Bilge Suctions, No. and size One 7" dia. Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 d size One 5" dia. Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes Yes  
 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  
 Sea Connections fitted direct on the skin of the ship Yes Are they fitted with Valves or Cocks Both  
 y 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 Below  
 y 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  
 Pipes pass through the bunkers Bilge-side pockets How are they protected Wood savings  
 Pipes pass through the deep tanks Have they been tested as per Rule Yes  
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
 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  
 ment to another Yes Is the Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from Yes

BOILERS, & Co.—(Letter for record \$ ) Total Heating Surface of Boilers 5486 sq. ft.  
 Boilers are fitted with Forced Draft Main Which Boilers are fitted with Superheaters None  
 d Description of Boilers 2 Main S.E.M. 2 SB Working Pressure 220 lbs. per sq. in.  
 REPORT ON MAIN BOILERS NOW FORWARDED? Yes  
 DONKEY BOILER FITTED? No If so, is a report now forwarded? Yes

Are approved plans forwarded herewith for Shafting 31-12-40 Main Boilers 22-5-40 Auxiliary Boilers Yes Donkey Boilers Yes  
 (If not state date of approval)  
 ters General Pumping Arrangements 24-12-40 Oil fuel Burning Piping Arrangements Yes

## SPARE GEAR.

Spare gear required by the Rules been supplied Yes  
 principal additional spare gear supplied

A specification as fitted for list of Manager's additional spare gear.

The foregoing is a correct description.  
 FOR JOHN READHEAD & SONS LTD.

Manufacturer.

4.9.41

MANAGING DIRECTOR

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Lloyd's Register  
 Foundation



1940 1941

Dec. 24. Jan. 10. 16. 23. Feb. 4. 7. 10. 13. 14. 17. 21. 25. 28. Mar. 5. 10. 12. 17. 18. 26. Apr. 1. 2. 3.

Dates of Survey while building  
During progress of work in shops - - 8. 9. 11. 18. 21. 24. 29. May 1. 2. 6. 8. 9. 12. 14. 16. 19. 20. 22. 23. 27. 29. 30. May 3. 4. 5. June 6. 10.  
During erection on board vessel - - 17. 19. 23. 24. 25. 27. July 2. 3. 4. 7. 9. 10. 11. 14. 15. 16. 17. 18. 22. 23. 25. 28. 29. 30. Aug. 1. 5.  
Total No. of visits 91.

Dates of Examination of principal parts—Cylinders 14-7-41 Slides 16-7-41 Covers 16-7-41  
Pistons 10-7-41 Piston Rods 15-7-41 Connecting rods 15-7-41  
Crank shaft 23-5-41 Thrust shaft 14-8-41 Intermediate shafts 14-8-41  
Tube shaft ✓ Screw shaft 11-7-41 Propeller 11-7-41  
Stern tube 7-7-41 Engine and boiler seatings 30-7-41 Engines holding down bolts 12-8-41

Completion of fitting sea connections 10-7-41  
Completion of pumping arrangements 21-8-41 Boilers fixed 31-7-41 Engines tried under steam 13-8-41  
Main boiler safety valves adjusted 15-8-41 Thickness of adjusting washers P-3/8" P-3/8" 14-8-41  
P-3/8" P-3/8" 15-8-41

Crank shaft material S.M. Steel Identification Mark 5450 Thrust shaft material S.M. Steel Identification Mark 554  
Intermediate shafts, material S.M. Steel Identification Marks 5550 5553 Tube shaft, material ✓ Identification Mark ✓  
Screw shaft, material S.M. Steel Identification Mark 5556 Steam Pipes, material S.S. Steel Test pressure 600 lb Date of Test 1-8-41  
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 ✓ 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 ✓  
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 rule requirements approved plans. Materials and workmanship are good. The machinery was satisfactorily tested on mooring trials in my opinion is eligible for classification with records of L.M.C.B., A.F.D.C.L.

The amount of Entry Fee ... £ 5 : 0 :  
Special ... £ 109 : 1 : 3  
Donkey Boiler Fee ... £ ✓ :  
Travelling Expenses (if any) £ ✓ :  
When applied for, 15 SEP 1941  
When received, 19

Committee's Minute FRI. 19 SEP 1941

Assigned

J. H. Matthews

Engineer Surveyor to Lloyd's Register of Shipping



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