

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

16 OCT 1941

Received at London Office

15 OCT 1941

Date of writing Report 8-10-41 When handed in at Local Office 19 Port of Hull  
 No. in Survey held at Thorne & Hull Date, First Survey 9.5.41 Last Survey 7.10.1941  
 Reg. Book. on the S. S. Tug. EMPIRE WILLOW (Number of Visits 15) Tons { Gross 129  
 Net 110  
 Built at Thorne By whom built R. Dundas & Co Yard No. 359 When built 1941-10  
 Engines made at Paisley By whom made McKee & Baxter & Co Engine No. 13 When made 1941-10  
 Boilers made at Glasgow By whom made John Thompson (Marine Eng.) & Co Boiler No. 5157 When made 1941-10  
 Registered Horse Power \_\_\_\_\_ Owners Ministry of Shipping Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Rule 85 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes  
 Trade for which Vessel is intended Seaway services

**ENGINES, &c.**—Description of Engines Triple Expansion Revs. per minute 140  
 Dia. of Cylinders 12" - 20" - 32" Length of Stroke 22" No. of Cylinders 3 No. of Cranks 3  
 Crank shaft, dia. of journals as per Rule 6.44" Crank pin dia. 6 1/2" Crank webs Mid. length breadth shrunk Thickness parallel to axis 4 1/8"  
 as fitted 6 1/2" Mid. length thickness shrunk Thickness around eye-hole 2 1/8" journals  
 Intermediate Shafts, diameter as per Rule 6.13" Thrust shaft, diameter at collars as per Rule 6.44"  
 as fitted 6 1/4" as fitted 6 1/2"  
 Tube Shafts, diameter as per Rule \_\_\_\_\_ Screw Shaft, diameter as per Rule 7.12" Is the { tube } shaft fitted with a continuous liner { No  
 as fitted \_\_\_\_\_ as fitted 7 1/8" { screw }  
 Bronze Liners, thickness in way of bushes as per Rule \_\_\_\_\_ Thickness between bushes as per Rule \_\_\_\_\_ Is the after end of the liner made watertight in the  
 as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ 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 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 \_\_\_\_\_  
 If two 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  
 a Yes If so, state type Chardark type Length of Bearing in Stern Bush next to and supporting propeller 29"  
 Propeller, dia. 8' - 3" Pitch 10' - 0" No. of Blades 4 Material C-1 whether Moveable Solid Total Developed Surface 24 sq. feet  
 Feed Pumps worked from the Main Engines, No. One Diameter 2 1/2" Stroke 12 Can one be overhauled while the other is at work Yes  
 Bilge Pumps worked from the Main Engines, No. \_\_\_\_\_ Diameter 2 1/2" Stroke 12 Can one be overhauled while the other is at work Yes  
 Feed { No. and size One 6 x 4 1/2 x 10" Pumps connected to the { No. and size One general service 5 x 3 1/2 x 6"  
 Pumps { How driven \_\_\_\_\_ Main Bilge Line { How driven \_\_\_\_\_  
 Ballast Pumps, No. and size None Lubricating Oil Pumps, including Spare Pump, No. and size \_\_\_\_\_  
 Are two independent means arranged for circulating water through the Oil Cooler Yes Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Bilge Pumps;—In Engine and Boiler Room Engine Rm 1 @ 2" dia 31' Rm 1 @ 2" dia. Also Direct Suction see below.  
 In Pump Room Dunker Tunnel 1 @ 2" dia. In Holds, &c. \_\_\_\_\_ + Fore & Aft Compartment vents  
one each @ 2" dia. Peake fitted with drain valves controlled from upper deck.

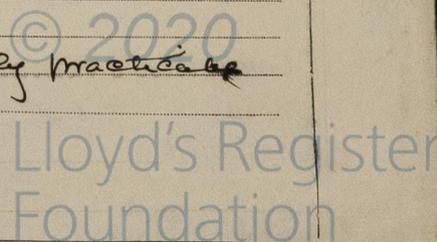
**MAIN BOILERS, &c.**—(Letter for record S) Total Heating Surface of Boilers 1356 sq. ft.  
 Which Boilers are fitted with Forced Draft Yes Which Boilers are fitted with Superheaters No  
 No. and Description of Boilers One S.B. Working Pressure 200 lbs/sq. in.  
 IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes  
 IS A DONKEY BOILER FITTED? None If so, is a report now forwarded? Yes  
 Can the donkey boiler be used for domestic purposes only \_\_\_\_\_

**PLANS.** Are approved plans forwarded herewith for Shafting 29-11-39 Main Boilers 6-11-39 Auxiliary Boilers \_\_\_\_\_ Donkey Boilers \_\_\_\_\_  
 (If not state date of approval)  
 Superheaters \_\_\_\_\_ General Pumping Arrangements 17.3.41 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 See list attached to Glasgow Rpt.

\* Sloke hold mud boxes are under removable floor plates. This is the only practice adopted.  
 The foregoing is a correct description.

Manufacturer.



During progress of work in shops - -

Dates of Survey while building

During erection on board vessel - -

Total No. of visits

1941 14.2.41

May 9. 15. 29. June 5. 17. July 21. 23. 25. 28. 30. Sep 2. 16. 22. 26. Oct 6. 7.

15

Dates of Examination of principal parts - Cylinders G/b Rpt. Slides G/b Rpt. Covers G/b Rpt.

Pistons G/b Rpt. Piston Rods G/b Rpt. Connecting rods G/b Rpt.

Crank shaft G/b Rpt. Thrust shaft G/b Rpt. Intermediate shafts G/b Rpt.

Tube shaft ✓ Screw shaft G/b Rpt + 29.5.41 Propeller 29.5.41

Stern tube G/b Rpt + 29.5.41 Engine and boiler seatings 29.5.41 Engines holding down bolts 4.9.41

Completion of fitting sea connections 29.5.41

Completion of pumping arrangements 7/10/41 Boilers fixed 4.9.41 Engines tried under steam 7/10/41

Main boiler safety valves adjusted 7/10/41 Thickness of adjusting washers 7/16" boiler

Crank shaft material Steel Identification Mark 9923.9AL Thrust shaft material Steel Identification Mark 5559 4-2-41 JFC 5-6-41 GAL

Intermediate shafts, material Steel Identification Marks JFC. 6.2.41 GAL 5.5.41 Tube shaft, material ✓ Identification Mark ✓

Screw shaft, material Steel Identification Mark 5560 JFC. 25.3.41 GAL 5.5.41 Steam Pipes, material Steel Copper. Test pressure 600 lbs/sq. in. Date of Test 16.9.41 400 lbs

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 No ✓

Is this machinery duplicate of a previous case Yes. If so, state name of vessel EMPIRE MAPLE.

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

The Machinery of the Vessel has been constructed & fitted on board under Special Survey in accordance with the approved plans, the Society's rules and the Specification. The workmanship & materials are good & when tried under working conditions it was found satisfactory in every respect.

It is eligible, in my opinion, when the vessel is closed to have the records of the L.M.C. 09. & the notation T. 3 cy. 12, 20, 32" - 22"

85 NIP. 200 lbs 1.5B. 3 cf. 9S. 37. H.S. 1356. FD.

Certificate to be sent to

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

The amount of Entry Fee ... £ : : When applied for

1/5" Special ... £ 4 : 5 : 19

Balance & 25% of this fee for Donkey Boiler Fee ... £ 3 : 6/8 : 19

Travelling Expenses (if any) £ : : When received, 19

*Dijby J. Johnson*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 28 OCT 1941

Assigned *John B. 10.41*

