

## REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

16 OCT 1941

Received at London Office

18 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  
 Built at Thorne By whom built R. Dundas & Co Yard No. 359 When built 1941-10  
 Engines made at Paisley By whom made McFie & 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 Norway 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 2 1/8" pins  
 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 7.12" Is the tube shaft fitted with a continuous liner No  
 as fitted 7 1/8" as fitted 7 1/8"  
 Screw Shaft, diameter as per Rule 7.12" Is the screw shaft fitted with a continuous liner No  
 as fitted 7 1/8" as fitted 7 1/8"  
 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 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 t Yes If so, state type Edward 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 Pumps No. and size One 6" x 4 1/2" x 10" Pumps connected to the Main Bilge Line No. and size One General Service 5" x 3 1/2" x 6"  
 How driven 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 Suctions, connected to both Main Bilge Pumps and Auxiliary  
 Bilge Pumps;—In Engine and Boiler Room Engine Rm 1 d 2" dia Bilge Rm 1 d 2" dia Also Direct Suctions see below.  
 In Pump Room Bilge Tunnel 1 d 2" dia. In Holds, &c. + Fore & Aft Compartment  
 one each d 2" dia Peaks fitted with drain valves controlled from upper deck.  
 Main Water Circulating Pump Direct Bilge Suctions, No. and size One 3 1/2" Independent Power Pump Direct Suctions to the Engine Room Bilges,  
 No. and size One 3 1/2" 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 at W.L.  
 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 None How are they protected  
 What pipes pass through the deep tanks None Have they been tested as per Rule Yes  
 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 Is it fitted with a watertight door worked from

**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.

007488-007447-0069

Lloyd's Register  
Foundation



During progress of work in shops - - -  
 Dates of Survey while building 1941  
 During erection on board vessel - - - May 9. 15. 29. June 5. 17. July 21. 28. 30. Sep 2. 16. 20. Oct 6. 7.  
 Total No. of visits 15

Dates of Examination of principal parts - Cylinders Gb Rpt. Slides Gb Rpt. Covers Gb Rpt.  
 Pistons Gb Rpt. Piston Rods Gb Rpt. Connecting rods Gb Rpt.  
 Crank shaft Gb Rpt. Thrust shaft Gb Rpt. Intermediate shafts Gb Rpt.  
 Tube shaft ✓ Screw shaft Gb Rpt. + 29.5.41 Propeller 29.5.41  
 Stern tube Gb 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 Boilers fixed 4.9.41 Engines tried under steam 7/10/41  
 Completion of pumping arrangements 7/10/41 Thickness of adjusting washers 7/16" bolt  
 Main boiler safety valves adjusted 7/10/41 Identification Mark 9923.9AL Thrust shaft material Steel Identification Mark 5559  
 Crank shaft material Steel Identification Mark 5561 Tube shaft, material ✓ Identification Mark 4.2.41 JFC  
 Intermediate shafts, material Steel Identification Marks JFC. 6.2.41 GAL. 5.5.41 Test pressure 600 lbs/sq. in. Date of Test 16.9.41  
 Screw shaft, material Steel Identification Mark 5560 Steam Pipes, material Copper. 400 lbs/sq. in.  
 Is an installation fitted for burning oil fuel CYO 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 CYO 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 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 L.M.C. 69. & the notation T. 3 cy. 12, 20, 32 - 22" 85 N.P. 200 lbs 1.S.B. 3 cy. 95.37 H.S. 1356. F.D.

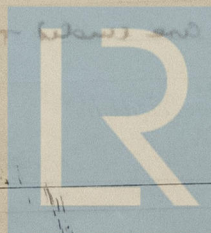
The amount of Entry Fee ... £ : : 16 OCT. 1941  
 1/8" Special ... £ 4 : 5 :  
 Balance of 25% of T.D. fee for Donkey Boiler Fee ... £ 3 : 6 :  
 Travelling Expenses (if any) £ : :  
 When received, 19

Committee's Minute

Assigned

*D. J. J. J. J.*  
 Engineer Surveyor to Lloyd's Register of Shipping.

TUE. 28 OCT 1941



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