

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

29 MAY 1940

Received at London Office

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Date of writing Report 19 \_\_\_\_\_ When handed in at Local Office 19 \_\_\_\_\_

Port of LIVERPOOL 72

No. in Survey held at NORTHWICH - Cheshire  
Reg. Book.

Date, First Survey 30/5/1930 Last Survey 16/5/1940  
(Number of Visits 38)

on the steam tug "SPARKLER"

Tons { Gross 161  
Net -

Built at Northwich By whom built W. J. Yarwood

Yard No. 625 When built 1940

Engines made at Northwich By whom made W. J. Yarwood

Engine No. 158 When made 1940

Boilers made at Birkenhead By whom made Cammell Laird & Co

Boiler No. 2210 When made 1939

Registered Horse Power \_\_\_\_\_ Owners Admiralty Port belonging to \_\_\_\_\_

Nom. Horse Power as per Rule 83 81 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

Trade for which Vessel is intended Towing

**ENGINES, &c.**—Description of Engines Triple Expansion 500 H.P. at  
Revs. per minute 135

Dia. of Cylinders 12 x 20 x 34" Length of Stroke 24" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 6.68 Crank pin dia. 6 3/4 Crank webs Mid. length breadth ✓ Thickness parallel to axis 4 1/16  
as fitted 6.75 Crank webs Mid. length thickness ✓ shrunk Thickness around eye-hole 3 3/8

Intermediate Shafts, diameter as per Rule 6.35 Thrust shaft, diameter at collars as per Rule 6.68  
as fitted 6 1/2 as fitted 6 3/4

Tube Shafts, diameter as per Rule ✓ Screw Shaft, diameter as per Rule 7.37 Is the tube shaft fitted with a continuous liner No  
as fitted ✓ as fitted 7 3/8 as fitted ✓ as fitted ✓

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 propeller boss ✓  
as fitted ✓ as fitted ✓ 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 ✓ Is an approved Oil Gland or other appliance fitted at the after end of the tube shaft Yes If so, state type Yarwood's Approved Length of Bearing in Stern Bush next to and supporting propeller 2'-9"

Propeller, dia. 8'-0" Pitch 9'-6" No. of Blades 4 Material Cool Iron whether Moveable No Total Developed Surface 27 sq. feet

Feed Pumps worked from the Main Engines, No. 2 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. 2 Diameter 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

Feed Pumps { No. and size 2-2 1/2 x 12" 1-4 x 6 x 12" dia Pumps connected to the { No. and size 2-2 1/2 x 12" 1-6 x 4 x 6 Lamat  
How driven Main Engine Steam Main Bilge Line { How driven Main Engine Steam

Ballast Pumps, No. and size 1-6 x 4 x 6 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 2-2" Eng. Room 1-2" Stokehold  
In Pump Room ✓ In Holds, &c. 1-2" Jachold

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-4" Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 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 (in Kingston boxes) Are they fitted with Valves or Cocks Valves, except ashcock.

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 Above

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 ✓ 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 ✓ Is it fitted with a watertight door ✓ worked from ✓

**MAIN BOILERS, &c.**—(Letter for record S) Total Heating Surface of Boilers 1445 sq. ft.

Is Forced Draft fitted No No. and Description of Boilers 1-S.B. Working Pressure 200 lb/sq. in.

IS A REPORT ON MAIN BOILERS NOW FORWARDED? See L. W. Rpt. No. 113157.

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? ✓

Is the donkey boiler intended to be used for domestic purposes only ✓

PLANS. Are approved plans forwarded herewith for Shafting Yes Main Boilers L. W. Rpt. 113157 Auxiliary Boilers ✓ Donkey Boilers ✓  
(If not state date of approval)

Superheaters ✓ General Pumping Arrangements Yes 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 Spare propeller.

The foregoing is a correct description.  
W. J. YARWOOD & SONS (1938) LTD.

Albert Yarwood Managing Director

Manufacturer.



1930  
 During progress of work in shops -- } May 30. July 2. Aug 12. Dec 18. 1939  
 Apr 13. 26. May 11. June 1. Aug 23. 29. Sept 11. 16. 27. Oct 6. 19. 27.  
 Dates of Survey while building }  
 During erection on board vessel --- } Nov 13. 23. Dec 12. 19. 1940  
 Jan 10. 18. 24. Feb 15. 27. Mar 6. 19. Apr 8. 24. 30. May 7. 16. 22  
 Total No. of visits 32. 33

Dates of Examination of principal parts—Cylinders tested 16.9.39 Slides 27.9.39 Covers 16.9.39 tested  
 Pistons 23.8.39 Piston Rods 13.4.39 Connecting rods 13.4.39  
 Crank shaft 11.5.39 completed Thrust shaft 6.10.39 Intermediate shafts 13.11.39  
 Tube shaft ✓ Screw shaft 18.1.40 (Replace) Propeller 19.12.39  
 Stern tube 12.12.39 Engine and boiler seatings 15.2.40 Engines holding down bolts 6.3.40  
 Completion of fitting sea connections 19.12.39  
 Completion of pumping arrangements 24.4.40 Boilers fixed 27.2.40 Engines tried under steam 16.5.40  
 Main boiler safety valves adjusted 16.5.40 Thickness of adjusting washers P + S. 23/64"  
 Crank shaft material O.H. Steel Identification Mark 85 JRW. <sup>LDS</sup> Thrust shaft material O.H. Steel Identification Mark 4454 A.F.  
 Intermediate shafts, material O.H. Steel Identification Marks 1277. T.W.B. <sup>24.10.39</sup> Tube shaft, material ✓ Identification Mark ✓  
 Screw shaft, material O.H. Steel Identification Mark 4454 A.F. Steam Pipes, material Copper Test pressure 95. Cert. attached Date of Test  
 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 built under special survey, the materials and workmanship are good. After erection in the shop the boiler and machinery have been fitted on board, together with the auxiliaries, in an efficient manner, and the safety valves adjusted under steam and satisfactory accumulation test carried out.

The spare gear checked. On completion a satisfactory trial was held in the River Mersey.

This vessel's machinery is now eligible, in my opinion, to be classed with record of + LMC 5.40. T.S. O.G. —

See correspondence with the Secretary.

See also  
 Lett. Cert. C. 424 of 20.7.36 for tests on crankshaft couplings, pins & body piece forgings. &c  
 Gls. Cert. C. 31517 of 13.7.36 for tests on thrust shaft, conn. rods, piston rods, & propeller shaft.  
 Shuff. Cert. C. 5650 of 15.7.36 for tests on cast steel crankweb & main bearing caps.

The amount of Entry Fee ... £ 2 : 0 :  
 Balance Special ... £ 11 : 3 :  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ 5 : 19 :

When applied for,

31 MAY 1940

When received,

14/6/1940

C.W. Reed

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute LIVERPOOL - 4 JUN 1940

Assigned + LMC 5.40.

O.G.



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