

REPORT OF SURVEY FOR REPAIRS, &c., OF ENGINES AND BOILERS

No. 72683

Date of writing Report 15-3-1948 When handed in at Local Office 21-3-48 (Received at London Office 27-APR 1948)

No. in Reg. Book 28989 Survey held at Glasgow Date. First Survey 12-11-47 Last Survey 10-3-1948 (No. of Visits 21)

on the Machinery of the ~~Wood, Iron or Steel~~ SS "MARWARRI"

Tonnage: Gross 8064 Vessel built at Port Glasgow By whom Wm Hamilton & Co. Ltd Year 1935 Month 4
 Net 4816 Engines made at Glasgow By whom D. Rowan & Co. Ltd When 1935
 Nominal 1150 HP Boilers, when made (Main) 1935 (Donkey) 1935
 Horse Power 1150 Owners Thos. & Jno. Brocklebank, Ltd Owners' Address (if not already recorded in Appendix to Register Book.)
 No. of Main Boilers 453 Managers (Port Liverpool Voyage)
 No. of Donkey Boilers 250 lb in Main Boilers 250 lb in Donkey Boilers

If Surveyed Afloat or in Dry Dock Both N. & S. Dry Dock Afloat: Queens Dock & Yorkhill Quay (State name of Dock.)

Last Report No. Port

Particulars of Examination and Repairs (if any) Docking, 15. *LMC & Conversion to Oil Fuel Burning

(Periodical Surveys, when held, must be reported in detail and serially in the terms of the Rules. State clearly the cause of Repairs, if any, and, in detail, the nature and extent of Examinations and subsequent Repairs. Repairs on account of Damage (the cause of which must be stated) should be separated from Repairs due to other causes; and besides being detailed in the body of the report, should be briefly summarised at the end of the report. State also the dates and initials of any letters respecting this case.)

Particulars of Classification which must be inserted precisely as in Register Book & Supplements.

CHARACTER.	Date of last Survey and of Periodical Surveys.	Years assigned now expired	Machinery and Boiler Surveys (including date of N.B., if any)
* 100 A1	11.46		* LMC 4.45
Examined	4.46		BS 4.46
SS hull 1.39			CL 4.44

In damage cases where the Surveyor has not made a special damage report he is required to state whether he offered his services for this purpose, and why they were declined.

Was a damage report made by anyone else? If so, by whom?

Did the Surveyor personally go inside each Main Boiler separately and make a thorough examination at this time? Yes

" " Donkey " " " "

If not, state for what reasons.

What special means, in the absence of internal examination, were adopted by the Surveyor to assure himself of the thorough efficiency of those parts of each Boiler?

State latest date of internal examination of each boiler. Forward Port 2-3-48 Forward Starboard 2-3-48 After Port 19-2-48 After Starboard 2-3-48

Did the Surveyor examine the Safety Valves of the Main Boilers? Yes To what pressure were they afterwards adjusted under steam? 250 lb/sq

Did the Surveyor examine the Safety Valves of the Donkey Boilers? Yes To what pressure were they afterwards adjusted under steam?

Did the Surveyor examine all the manholes, doors and their fastenings of the Main Boilers? Yes, and of the Donkey Boilers?

Did the Surveyor examine the drain plugs of the Main Boilers? Yes, and of the Donkey Boilers?

Did the Surveyor examine all the mountings of the Main Boilers? Yes, and of the Donkey Boilers?

Has the screw shaft now been drawn and examined? Yes Has it a continuous liner? Yes Is an approved oil retaining appliance fitted at the after end? No

Has shaft now been changed? No If so, state reasons. Has the shaft now fitted been previously used? Yes Has it a continuous liner? Yes

Is an approved oil retaining appliance fitted at the after end? Yes State date of examination of Screw Shaft 2-2-48 State the wear down in the stern bush Bottom half rewooded Is electric light and/or power fitted? Yes If so, did the Surveyor examine the generators, motors, switchgear, cables and fuses? Yes

Has the insulation resistance of the generators, circuits and apparatus been tested and found to be not less than 100,000 ohms? Yes

If the Survey is not complete, state what arrangements have been made for its completion and what remains to be done. *LMC complete. To complete the conversion from coal to oil fuel burning the steam smothering for fire extinguishing requires to be tried under working conditions. The burner's Representative stated that this would be done at Liverpool to which port the vessel is now proceeding. Liverpool Surveyors informed.

Now Done DOCKING: Vessel placed in dry dock propeller, screw shaft (drawn) stern bush, underwater fastenings, valves & sea cocks examined & found or placed in good condition.

REPAIRS: Bottom half stern bush rewooded & screw shaft refitted

M.S. The following machinery parts examined & found or placed in good condition. Main engine H.P. I.P. & L.P. turbine rotors, top & bottom half casings, bearings, journals & gearing throughout. The thrust block & shaft & intermediate shafting & bearings. The main & auxiliary condensers, N° 1 & 2 steam generator engines, port & starboard fan engines, main circulating pump, water reciprocating &

General Observations, Opinion, and Recommendation: The machinery of this vessel so far as now seen is in safe & efficient condition & eligible in our opinion to remain as classed with fresh record of *LMC 3.48 and with fresh record of TS CL 2.48 & with notation Fitted for oil fuel 3.48 F.P. above 150°F when the conversion to oil burning has been completed.

Fee (per Section 29) LMC £40 : 0 : 0 OFC £45 : 0 : 0

Special Damage or Repair Fee (if any) TS £3 : 0 : 0 ELECTRICAL SURVEY £8 : 0 : 0

Other expenses (if chargeable) EL REPAIRS £8 : 8 : 0 LATE ATTENDANCES £9 : 9 : 0

Committee's Minute GLASGOW 6 APR 1948

Received by me, 19 6 APR 1948

JB Gray, B. Haffner, Engineer Surveyor to Lloyd's Register of Shipping.

Lloyd's Register Foundation

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Glasgow

SS "MARWARRI"

M.S.

turbo main fuel pumps, air pump, sanitary pump, condensate pump, fresh water pump, auxiliary feed pump, general service pump, ballast pump, bilge pump, main engine driven lubricating oil pump, auxiliary lubricating oil pump, lubricating oil cooler, evaporator & pumping arrangements. All steam pipes 3" bore & over examined under hydraulic test, 500 lbs/A & found satisfactory.

M.S. REPAIRS:-

Main Condenser:- New cast iron water end fitted, 640 tubes renewed & two new header plates fitted. Condenser tested after repairs & found satisfactory.
 Auxiliary Condenser:- 10 new tubes fitted, condenser tested & found satisfactory.
 Main Circulating Pump:- Impeller shaft built up where worn in way of bearings & bearings renewed. New seal rings fitted.
 Wiro Main Feed Pump:- Shuttle valve overhauled & new bucket rings fitted.
 Wiro Turbo Feed Pump:- Sent ashore to makers & overhauled. After reinstallation the pump was examined under working conditions & found satisfactory.
 Air pump:- Shuttle valve overhauled & new bucket rings fitted.
 Fan Engines:- Piston valve chambers bored out & new piston valves fitted.
 Sanitary Pump:- New bucket chamber liner & bucket & rod fitted.
 Condensate Pump:- Ridges on bucket liner removed, new bucket rings fitted & shuttle valve overhauled.

Steam Generators:- The two 15 KW steam generating set were removed from the ship & 2 - 20 KW used steam generating sets installed. These generating sets were obtained from the Admiralty & were made by E. Reader & Sons their Nos being 20940 & 20941. The steam engines were examined in their entirety & found in good condition. These generators were installed at the bowers in

STEERING GEAR:-

Steering gear steam engine examined in its entirety & found or placed in good condition.

REPAIRS:-

New junk ring pins fitted to both pistons, new holes drilled in pistons for pins.

WINDLASS:-

Windlass examined in its entirety & found in good condition.

B.S.:

The forward port & starboard & the after port & starboard boilers examined internally & externally with mountings, fastenings superheater elements & safety valves & found or placed in good condition.

All the safety valves of the boilers were adjusted under steam.

BS REPAIRS:-

Forward Port Boiler: Starboard High combustion chamber: 4 screwed stays coned. Starboard Low combustion chamber, 5 screwed stays coned.

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B.S. Forward Port Boiler:- Auxiliary check valve seat & valve lid renewed & salinometer cock renewed

Forward Starboard Boiler:- Auxiliary check valve seat & valve lid renewed, salinometer cock renewed

After Port Boiler:- Port low combustion chamber:- 4 screwed stays coned

Starboard low combustion chamber:- 4 screwed stays coned

Auxiliary check valve seat & valve lid renewed. Safety valves, seats & valve lids renewed.

After Starboard Boiler:- Starboard low combustion chamber:- 4 screwed stays coned

Port low combustion chamber:- 4 screwed stays coned

Port High combustion chamber:- 6 screwed stays coned

Starboard High combustion chamber:- 6 screwed stays coned.

Auxiliary check valve seat & valve lid renewed. The superheater elements of this boiler were renewed at this time at Owners initiative. The elements were hydraulically tested in place to 500 lbs/sq. & found satisfactory

CONVERSION FROM COAL TO OIL FUEL BURNING:

A Clyde Fuel Systems Duplex pumping & heating unit N° 214090 & N° 214091 & a Wier's oil fuel transfer pump N° 215543 installed in the engine room. All furnace fronts renewed & no funnel damper fitted. Nos 1, 2, 3, 4, & 4 double bottom tanks fitted for oil fuel. Port & starboard coal bunkers in stokehold converted into port & starboard oil fuel side bunkers & settling tanks.

Solid drawn steel oil fuel heating coils fitted to all oil fuel tanks & hydraulically tested in place to 500 lbs/sq. All heating coil drains return to observation tank fitted in engine room. The feed pumps & fresh water tanks are isolated from fuel, bilge & ballast connections. No wood bearers or lead pipes fitted. Oil gutterways fitted in way of side bunkers & settling tanks & provision for drainage arranged.

Oil fuel discharge pipes & fittings hydraulically tested to 400 lbs/sq. suction pipes tested to 100 lbs/sq. Steam fire extinguishing pipes fitted under boilers. Foam fire extinguishing apparatus fitted to convenient positions in engine room & boiler room spaces.

All fittings & pipes were installed & tested in accordance with approved plans & to the Society's Rules & Requirements. Approved plans attached herewith

On completion of repairs & conversion to oil burning the main & auxiliary machinery, pumps & pumping arrangements were tried under working conditions & found satisfactory.

Heating coil returns, unit controls & extended spindles tried & found satisfactory

A Comyn Oil Separator N° 360 fitted in port tween deck.

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ELECTRICAL EQUIPMENT.

A Special Survey of the electrical equipment carried out. The following repairs were effected:- Two 15 KW. generators removed & replaced by two 20 KW used generating sets generators manufactured by Campbell & Islerwood Nos 14804 & 14808, 20 KW 110 V. 182A 300rpm. New generator switches & fuses of adequate size fitted to switchboard; generator cables also renewed.

Stokehold, workshop & Engineers smokeroom rewired & numerous minor repairs effected to other circuits. Four small pumps & four fans fitted to galley oil burning equipment

On completion of repairs, generators tested under full load conditions, all circuits examined & tried under working conditions & I.R. tests taken.

All found in satisfactory condition.

B. Hafner.



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