

# REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office 29 DEC 1945

Date of writing Report 19 28 DEC 1945 19 45 Port of Hull

No. in Survey held at Selly Hull Date, First Survey 21.3.45 Last Survey 14.12.1945

Reg. Book "EMPIRE VERA" A/MS 1152 (Number of Visits 18) Tons Gross 297 Net NIL

Built at Selly By whom built Bochran & Sons Ltd. Yard No. 1302 When built 1945

Engines made at Providence, Rhode Is., USA. By whom made Franklin Machine & Foundry Co. Engine No. 1020 When made 1943  
installed by Amos Smith No. 764.

Boilers made at Glasgow By whom made Barelay Curle & Co. Ltd. Boiler No. 42/3 When made 1943

Registered Horse Power \_\_\_\_\_ Owners Ministry of War Transport Port belonging to HULL  
managed by United Towing Co. of Hull.

Nom. Horse Power as per Rule 109 Is Refrigerating Machinery fitted for cargo purposes NO Is Electric Light fitted YES

Trade for which vessel is intended Towing Services.

GINES, &c.—Description of Engines Triple Expansion Recip. Steam—USA cert no. B1031 Revs. per minute 130

No. of Cylinders 12" 20" 38" Length of Stroke 24" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule Crank pin dia. 7 3/4" Crank webs Mid. length breadth 15 1/16" Thickness parallel to axis 5"  
 as fitted 7 3/4" Mid. length thickness 5 1/8" shrunk Thickness around eye-hole 3 1/2"

Intermediate Shafts, diameter as per Rule Thrust shaft, diameter at collars as per Rule  
 as fitted 6 5/8" as fitted 8 1/2"

Tube Shafts, diameter as per Rule Screw Shaft, diameter as per Rule Is the { tube } shaft fitted with a continuous liner { NO }  
 as fitted \_\_\_\_\_ as fitted 8" 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  
 as fitted \_\_\_\_\_ as fitted \_\_\_\_\_ as fitted \_\_\_\_\_

Propeller boss ✓ 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 ✓

Propeller, dia. 9' 0" Pitch 9' 6" No. of Blades 4 Material CI. whether Moveable NO Total Developed Surface 31.5 sq. feet

Feed Pumps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Bilge Pumps worked from the Main Engines, No. None Diameter ✓ Stroke ✓ Can one be overhauled while the other is at work ✓

Feed Pumps { No. and size Two 7" x 3" x 12" Pumps connected to the { No. and size One 7 1/2" x 5" x 6" One 12" x 9" x 12" Ejector. }  
 How driven Ind. Steam Main Bilge Line How driven Ind. Steam Ind. Steam Stm.

Ballast Pumps, No. and size One 7 1/2" x 5" x 6" Lubricating Oil Pumps, including Spare Pump, No. and size 2-4" x 2 1/2" x 4" (One hand pump to fill 91 ME bearings)

Are two independent means arranged for circulating water through the Oil Cooler Ind. Steam One way Suctions, connected to both Main Bilge Pumps and Auxiliary

Bilge Pumps:—In Engine and Boiler Room ER. 3-2 1/2" x 1-3" BR. 2-2 1/2"

In Pump Room ✓ In Holds, &c. 1-2"

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 1-3" 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 Both

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 None 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 Part of ER Is it fitted with a watertight door — worked from —

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 1786 sq ft

Which Boilers are fitted with Forced Draft SOLE BOILER Which Boilers are fitted with Superheaters NONE

No. and Description of Boilers 1SB Working Pressure 220 lbs

IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes

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

Can the donkey boiler be used for domestic purposes only ✓

PLANS. Are approved plans forwarded herewith for Shafting 25.7.44 Main Boilers 14.9.42 Auxiliary Boilers ✓ Donkey Boilers ✓  
 (If not state date of approval)

Superheaters ✓ General Pumping Arrangements 19.7.45 Oil fuel Burning Piping Arrangements 11.5.45

### SPARE GEAR.

Has the spare gear required by the Rules been supplied As per Specification

State the principal additional spare gear supplied \_\_\_\_\_

The foregoing is a correct description.

Manufacturer. \_\_\_\_\_



© 2020

Lloyd's Register Foundation

During progress of work in shops -- Main engines built in Providence, Rhode Island USA by Franklin Machine & Foundry Co. & supplied to installers by Admiralty.

Dates of Survey while building  
 During erection on board vessel --- 1945 MAR 21, AP 16, AUG 9, SEP 3, 7, OCT 18, 26, 31, NOV 6, 19, 21, 23, 26  
 DEC 3, 4, 8, 11, 14.

Total No. of visits 18.

Dates of Examination of principal parts—Cylinders Slides Covers  
 Pistons American Rods Connecting rods See Cert No. B. 1031  
 Crank shaft See American Thrust shaft Bureau of Shipping Intermediate shafts See Cert No. B. 1031  
 Tube shaft See American Screw shaft 16.4.45 Propeller 16.4.45  
 Stern tube 16.4.45 Engine and boiler seatings 7.9.45 Engines holding down bolts 6.11.45  
 Completion of fitting sea connections 16.4.45  
 Completion of pumping arrangements 8.12.45 Boilers fixed 6.11.45 Engines tried under steam 3/12/45 11/12/45  
 Main boiler safety valves adjusted 8.12.45 Thickness of adjusting washers P 3/8" S 1/32"  
 Crank shaft material See American Identification Mark Bureau Thrust shaft material Cert No. Identification Mark B-1031  
 Intermediate shafts, material F.I. STEEL Identification Marks JS, 2.2.45 Tube shaft, material NONE Identification Mark ---  
 Screw shaft, material D° Identification Mark JS 18.1.45 Steam Pipes, material STEEL Test pressure 660 lbs Date of Test 26.11.45  
 Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150° F. Yes  
 Have the requirements of the Rules for the use of oil as fuel been complied with Yes  
 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 N  
 Is this machinery duplicate of a previous case Yes If so, state name of vessel Empire Martha

General Remarks (State quality of workmanship, opinions as to class, &c.)  
 The main engines and boiler for this vessel supplied by Admiralty from reserve stock and installed by Amos Smith, Hull in accordance with the specification, the Secretary's letters & the Rules. The workmanship and materials appear to be good.  
 The machinery and materials appear to be good.  
 The machinery has been tried under working conditions & found satisfactory on completion of the trials.  
 Eligible in my opinion to have record of LMC (R) 12, 45 O.G.  
 T. 3cy, 12°, 20° 33" - 24". M.I.V. 109. I.S.B. 220 lbs.  
 3cf HS. 1786 of F.O. fitted for oil fuel 12, 45 F.P. above 150° F.

N.H.P. 109 @ 5/- £ 24-5-0  
 F.E. 3-0-0  
 One 5th for fitting out 15-9-0  
 25% Spec. 1-7-3  
 F.E. 3-0-0

The amount of Entry Fee	£ 3 : 0 :	When applied for,
Special F.I.T.T. - O.H.T.	£ 5 : 9 :	19
25% Spec.	1 : 7/3 :	
Donkey Boiler Fee	£ 1 :	When received,
Travelling Expenses (if any)	£ :	19

W.S. Shields  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 11 JAN 1946  
 Assigned LMC (R) 12, 45  
 FITTED FOR OIL FUEL 12, 45 FLASH POINT ABOVE 150° F. F.O. O.G.



Copy Report not rec'd

Rpt. 5a.  
 RECEIVED  
 16 DEC 1945  
 Date of writing  
 IN D.C.  
 No. in Series  
 Reg. Book.  
 Master  
 Engines made  
 Boilers made  
 Nominal Horsepower  
 MULTIPLE  
 Manufacture  
 Total Heating Surface  
 No. and Description of  
 Tested by  
 Area of Fire  
 Area of each  
 In case of double  
 Smallest distance  
 Smallest distance  
 Largest distance  
 Thickness of  
 long. seams  
 Percentage of  
 Percentage of  
 Thickness of  
 Material  
 Length of plates  
 Dimensions of  
 End plates  
 How are stays  
 Tube plates  
 Mean pitch of  
 Girders to center  
 at centre  
 in each  
 Tensile strength  
 Pitch of stays  
 Working pressure  
 Thickness  
 Pitch of stay  
 Working Pressure  
 Diameter  
 Working pressure  
 Diameter