

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 30/11/41 When handed in at Local Office 30/11/41 Port of West Hartlepool
 No. in Survey held at West Hartlepool H. Hill Date, First Survey 16th April, 1940 Last Survey 28th January 1941
 Reg. Book. 88040 on the Steel Sc "EMPIRE OIL" (Number of Visits 97)
 Built at Haverton Hill By whom built Furness Shipbuilding Co. Yard No. 324 Tons Gross 8028.79 Net 4676.71
 Engines made at Hartlepool By whom made Richardsons, Westguth & Co Engine No. 2701 When built 1941
 Boilers made at " By whom made " " " Boiler No. 2701 When made 1941
 Registered Horse Power Owners Ministry of Shipping Port belonging to Middlesbrough
 Nom. Horse Power as per Rule 674 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 Trade for which Vessel is intended Oil Tanker

ENGINES, &c.—Description of Engines Triple Exp. Vert. Surface Condensing
 Dia. of Cylinders 27"-44"-76" Length of Stroke 51" No. of Cylinders 3 Revs. per minute 85.5
 Crank shaft, dia. of journals as per Rule 15.214" as fitted 15 1/2" Crank pin dia. 16" Crank webs Mid. length breadth shrunk Thickness parallel to axis 9 5/8" 10 1/8" MP
 Intermediate Shafts, diameter as per Rule 14.49" as fitted 14 3/4" Thrust shaft, diameter at collars as per Rule 15.214" as fitted 15 3/4"
 Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 16.01" as fitted 16 1/4" Is the shaft fitted with a continuous liner Yes
 Bronze Liners, thickness in way of bushes as per Rule .79" as fitted 13/16" Thickness between bushes as per Rule .59" as fitted 13/16" Is the after end of the liner made watertight in the propeller boss Yes
 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 Yes
 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 shaft No
 Propeller, dia. 18'-3" Pitch varying No. of Blades 4 Material Bronze whether Moveable No Total Developed Surface 131.75 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 5" Stroke 27" Can one be overhauled while the other is at work Yes
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 5" Stroke 27" Can one be overhauled while the other is at work Yes
 Feed Pumps No. and size 2-12"x9"x24"; 1-9"x6"x10" How driven Steam Pumps connected to the Main Bilge Line No. and size 2@5"x24" 5" connection Ballast Pump How driven Main Eng. Steam
 Ballast Pumps, No. and size 1-10"x12"x12" 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 3 1/2" aft well, 3 1/2" ER, 3 1/2" ER, 2 1/2" Cyperden, 3 1/2" BR, 3 1/2" B.R.S.
 In Pump Room Ford 1-2" Main P.R.F 1-3" PORT Chain locker at 1-2" (P) 1-2" (S) Ford 1-2" (P) 1-2" (S) Main P.R. Room aft 1-3" P
 Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-10" hot Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5" cold
 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 mud box, valve & tail pipe 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 below
 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 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 none Is it fitted with a watertight door worked from

MAIN BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 10020
 Which Boilers are fitted with Forced Draft all Which Boilers are fitted with Superheaters all
 No. and Description of Boilers 3-Single ended multitubular 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? Yes
 Can the donkey boiler be used for domestic purposes only
 PLANS. Are approved plans forwarded herewith for Shafting 30/10/39 Main Boilers 16/10/39 Auxiliary Boilers Donkey Boilers
 Superheaters General Pumping Arrangements 12/3/40 Oil fuel Burning Piping Arrangements 8/10/40
 SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes
 State the principal additional spare gear supplied 1-piston & 1 bucket for main cargo pumps.

The foregoing is a correct description.

W.E. Dorrance
DIRECTOR

Manufacturer.



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NOTE.—THE WORDS WHICH DO NOT APPEAR OTHERWISE

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1940. April 16-23-25-26-30. May 1-2-13-24-26-30. June 7-10-14-24-28. July 9-11-12-15-22-23-25-31. Aug. 2-7-8-13-15-21-27. Sept. 3-4-6-9-11-12-16-17-20-24. Oct. 1-2-4-7-8-9-10-14-15-16-17-23-24-25-28-29-30. Nov. 4-5-6-11-12-13-14-18-19-20-21-25-26-27-28-29. Dec. 2-3-4-5-6-9-13-16-17-19-23. 1941 Jan. 3-10-13-14-15-16-20-21-22-23-24-28.

Dates of Survey while building: During progress of work in shops - - -
 During erection on board vessel - - -
 Total No. of visits 97

Dates of Examination of principal parts—Cylinders 20/9/40 Slides 23/8/40 Covers 12/9/40
 Pistons 21/11/40 Piston Rods 21/11/40 Connecting rods 14/11/40
 Crank shaft 15/8/40 Thrust shaft 25/7/40 Intermediate shafts 24/1/41
 Tube shaft ✓ Screw shaft 24/1/41 Propeller 3/2/41 ✓
 Stern tube 24/1/41 Engine and boiler seatings 3/2/41 Engines holding down bolts 7/4/41
 Completion of fitting sea connections 3/2/41
 Completion of pumping arrangements 24/4/41 Boilers fixed 17/4/41
 Main boiler safety valves adjusted 24/4/41 Thickness of adjusting washers PORT 3/8" STAR 5/16" SUPER 11/32" ENGINES TRIED UNDER STEAM 24-4-41
 Crank shaft material steel Identification Mark 2350 AEG. Thrust shaft material steel Identification Mark 9264 HAI
 Intermediate shafts, material steel Identification Marks 9054 HAI Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material steel Identification Mark 9900 HAI Steam Pipes, material S.D. steel Test pressure 660 Date of Test 25/10/40
 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 ~~Yes~~ 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 R. W. Lynne 2700

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The engines & boilers of this vessel have been constructed under Special Survey & in accordance with the approved plans. The workmanship & material have been found good. This machinery has been forwarded to Haverton Hill - to be fitted on board by Messrs. Furness Shipbuilding Co. in their Yard No 354. In my opinion, this vessel will be eligible to have record of +LMC - with date - upon completion. The machinery fitted on board in accordance with the approved plans, & Rule Requirements, tried under steam & found working satisfactorily & in our opinion is eligible for record of +LMC 5,41, notation of TS (CL) 5,41, Forced draught or Superheated. The ship's side inlet or discharge valves, reinforced in accordance with Admiralty Notice M.S/2385/HO and M.S.3199/40.

The amount of Entry Fee ... £ 6 : 0 :
 Special 4 LMC ... £ 86 : 19 :
 Donkey Boiler Fee ... £ 21 : 15 :
 Travelling Expenses (if any) £ : :
 When applied for, 30/11/1941
 When received, 19

R. J. Easthope & Co. Bell
 Engineer Surveyors to Lloyd's Register of Shipping.

Committee's Minute TUE. 20 MAY 1941
 Assigned + LMC 5.41
 Subt. for oil fuel
 R. C. D.

