

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office APR 18 1941

Date of writing Report 17/4/41 When handed in at Local Office 17/4/41 Port of W. Hartlepool

No. in Survey held at W. Hartlepool Date, First Survey 16th June, 1940. Last Survey 9th April 1941. (Number of Visits 90)

Reg. Book. 9098 on the Steel S.S. EMPIRE MICA Gross 8032.20 Tons Net 4675.60

Built at Haverthill By whom built Furness Shipbuilding Co Yard No. 328 When built 1941

Engines made at Hartlepool By whom made Richardson Westgarth & Co. Engine No. 2402 When made 1941

Boilers made at " By whom made " " " Boiler No. 2402 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. Revs. per minute 85.5
Dia. of Cylinders 27" x 44" x 76" Length of Stroke 51" No. of Cylinders 3 No. of Cranks 3

Crank shaft, dia. of journals as per Rule 15.214" as fitted 15 1/2" Crank pin dia. 16" Crank webs Mid. length breadth Thickness parallel to axis 9 5/8" 10 1/8" shrunk Thickness around eye-hole 8 1/4"

Intermediate Shafts, diameter as per Rule 14.49" as fitted 14 3/4" Thrust shaft, diameter at collars as per Rule 15.24" as fitted 15 3/4" - 15 1/2"

Tube Shafts, diameter as per Rule as fitted Screw Shaft, diameter as per Rule 16.01" as fitted 16 1/4" Is the tube screw shaft fitted with a continuous liner Yes

Bronze Liners, thickness in way of bushes as per Rule .49" 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 is in more than one length are the junctions made by fusion through the whole thickness of the liner 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 24" Can one be overhauled while the other is at work Yes

Bilge Pumps worked from the Main Engines, No. 2 Diameter 5" Stroke 24" Can one be overhauled while the other is at work Yes

Feed Pumps No. and size 2-12"x9"x24"; 1-9"x6"x10" Pumps connected to the Main Bilge Line No. and size 2-5"x27" How driven Steam 5" connection Bilge Pump

Ballast Pumps, No. and size 1-10"x12"x12" Lubricating Oil Pumps, including Spare Pump, No. and size 5" connection Bilge Pump

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/P, 3 1/2" ER/S, 2 1/2" Coffdam, 3 1/2" BR/H, 3 1/2" BR/S

In Pump Room Ford 1-2", Main P.R./F 1-3" P. Holds, &c. 1-3 1/2", Ford 6 off 1-2" (P) 1-2" (S) Deep Tank 1-2" (P) 1-2" (S) Chain Locker 2 off 1-2" (P) 1-2" (S) Main P. Room (aft) 1-3" (P) 1-3" (S) after coff 1-3" Suction

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-10" pot Independent Power Pump Direct Suctions to the Engine Room Bilges, No. and size 1-5" slab. Are all the Bilge Suction Pipes in holds and tunnel well fitted with strum-boxes mud box, valve & tail pipe

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 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

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 S.E. 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?

Can the donkey boiler be used for domestic purposes only

PLANS. Are approved plans forwarded herewith for Shafting 9/1/40 Main Boilers 16/10/39 Auxiliary Boilers Donkey Boilers (If not state date of approval)

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.

or RICHARDSONS, WESTGARTH & Co. LIMITED.

W. G. Richardson

Manufacturer.

DIRECTOR



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Lloyd's Register

W 34-0024 ion

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

Dates of Survey while building
 During progress of work in shops - - -
 During erection on board vessel - - - 1941. Mar. 19. April 1. 3. 7. 14. 23. 29. 30. June 7.

Total No. of visits 99

Dates of Examination of principal parts—Cylinders 9/12/40 Slides 30/12/40 Covers 10/12/40
 Pistons 4/2/41 Piston Rods 8/1/41 Connecting rods 31/12/40
 Crank shaft 13/11/40 Thrust shaft 26/7/40 Intermediate shafts 4/4/41
 Tube shaft ✓ Screw shaft 4/4/41 Propeller 7/4/41
 Stern tube 4/4/41 Engine and boiler seatings 7/4/41 Engines holding down bolts 23/5/41
 Completion of fitting sea connections 7/4/41
 Completion of pumping arrangements 29/5/41 Boilers fixed 23/5/41 Engines tried under steam 30/5/41
 Main boiler safety valves adjusted 29/5/41 Thickness of adjusting washers PORT 1/2" STAR 1/4" PORT 1/2" STAR 1/4" F 11/32"
 Crank shaft material steel Identification Mark 9054 H.A.I. Thrust shaft material steel Identification Mark 3207 A.E.G.
 Intermediate shafts, material steel Identification Marks 9055 H.A.I. Tube shaft, material ✓ Identification Mark ✓
 Screw shaft, material steel Identification Mark 9055 H.A.I. Steam Pipes, material S.P. steel Test pressure 660 lb. Date of Test 28/1/41
 Is an installation fitted for burning oil fuel yes Is the flash point of the oil to be used over 150°F. yes 13/4/41
 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 Tanker 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. 2400-1 Empire Gold

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The engine & boilers of this vessel have been constructed under Special Survey & in accordance with the approved plans.
 The workmanship & materials have been found good.
 This machinery has been forwarded to Haverhill to be fitted on board by Messrs Harross Shipbuilding Co. with Yard No 328.
 In my opinion, the 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 6,41, notation of TS(CL) 6,4 Forced draught, & Superheated.
 The ships side inlet & discharge valves re-improved in accordance with Admiralty Notice MS 2385/40 & MS 3199/40.

R. J. Easthope
 Clive Bell.
 Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 6 : 0 : When applied for,
 Special ⁴/₁₅ Lmc ... £ 86 : 19 : 25/6 1941.
 Donkey Boiler Fee ... £ 21 : 15 :
 Travelling Expenses (if any) £ - : - : ✓

Committee's Minute TUE. 1 JUL 1941
 Assigned + Lmc 6.41 320,
 Filt. fuel 6.41 Cd.
 H. above 150°



The Surveyors are requested not to write on or below the space for Committee's Minute.