

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

Date of writing Report 1943-8-44
 No. in Survey held at HULL
 Reg. Book
 on the STEAM TUG EMPIRE CHRISTOPHER A/MS. 872
 Built at SELBY By whom built Cochrane & Sons Ltd Yard No. 1285 When built 1944
 Engines made at HULL By whom made Amos & Smith Ltd Engine No. 755 When made
 Boilers made at HULL By whom made Amos & Smith Ltd Boiler No. 755 When made
 Registered Horse Power Owners Ministry of War Transport Port belonging to
 Nom. Horse Power as per Rule 132. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.
 Trade for which vessel is intended Coasting Service

ENGINES, &c.—Description of Engines TRIPLE EXPANSION CONTRACT. Revs. per minute 122.
 Dia. of Cylinders 15"-25"-42" Length of Stroke 27" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 8.05" as fitted 8 1/4" Crank pin dia. 8 1/4" Mid. length breadth 15 1/2" Thickness parallel to axis 5 1/2"
 Intermediate Shafts, diameter as per Rule 7.66" as fitted 8" Crank webs Mid. length thickness 5 1/2" shrunk Thickness around eye-hole 3 5/8"
 Tube Shafts, diameter as per Rule None as fitted Screw Shaft, diameter as per Rule 8.865" as fitted 9 1/4" Is the {tube/screw} shaft fitted with a continuous liner {No.
 Bronze Liners, thickness in way of bushes as per Rule as fitted Thickness between bushes as per Rule as fitted Is the after end of the liner made watertight in the propeller boss
 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 NEWARK Length of Bearing in Stern Bush next to and supporting propeller 2'-2 1/2"
 Propeller, dia. 10'-0" Pitch 11'-9" No. of Blades 4 Material C.I. whether Moveable SOLID Total Developed Surface 38 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 15" Can one be overhauled while the other is at work Yes.
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 2 3/4" Stroke 15" Can one be overhauled while the other is at work Yes.
 Feed Pumps No. and size One 6" x 6 1/2" x 6" Duplex Pumps connected to the Main Bilge Line No. and size One 7 1/2" x 5" x 6" Duplex
 How driven Independent Gear How driven Independent Gear
 Ballast Pumps, No. and size NONE Lubricating Oil Pumps, including Spare Pump, No. and size NONE
 Are two independent means arranged for circulating water through the Oil Cooler NONE Suctions, connected to both Main Bilge Pumps and Auxiliary
 Bilge Pumps:—In Engine and Boiler Room 2 @ 2 1/2" 2 @ 3" Dia Boiler Rm. 2 @ 2 1/2"
 In Pump Room One @ 2" Dia in each of the In Holds, &c. following:—Fore peak tank. Fore Hold
Apr Hold. Apr Peak. Tank.
 Main Water Circulating Pump Direct Bilge Suctions, No. and size One @ 5" Independent Power Pump Direct Suctions to the Engine Room Bilges,
 No. and size One @ 3" included above 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 NONE Is it fitted with a watertight door worked from

MAIN BOILERS, &c.—(Letter for record 5) Total Heating Surface of Boilers 2390 sq. ft.
 Which Boilers are fitted with Forced Draft NONE Which Boilers are fitted with Superheaters NONE
 No. and Description of Boilers ONE S.B. Working Pressure 200 lb./sq. in.
 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 28-7-41 Main Boilers 3-7-41 Auxiliary Boilers NONE Donkey Boilers NONE
 (If not state date of approval)
 Superheaters NONE General Pumping Arrangements 3-9-41 Oil fuel Burning Piping Arrangements 8-5-42

SPARE GEAR.

Has the spare gear required by the Rules been supplied Yes
 State the principal additional spare gear supplied See attached list.

The foregoing is a correct description.
FORANOS & SMITH LTD.

W. E. Brown

DIRECTOR

Manufacturer.



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W300-0103

EMPIRE CHRISTOPHER.

During progress of work in shops - - 1943. Apr. 1. May 11. 13. 16. 17. 19. 24. June 6. 20. 29. July 12. Aug 21.

Dates of Survey while building During erection on board vessel - - 1944. Apr 4, 18. May 17, 24, 28. Aug 3, 10, 11, 14, 16, 17, 23, 24. 30.

Total No. of visits. 26.

Dates of Examination of principal parts—Cylinders 17/5/44. 16/5/44. 19/5/44. Slides 20/6/44. Covers 17/5/44. 16/5/44. 19/5/44.

Pistons 20/6/44. Piston Rods 20/6/44. Connecting rods 20/6/44.

Crank shaft 29/6/44. Thrust shaft 11/5/44. Intermediate shafts 24/5/44.

Tube shaft NONE. Screw shaft 1/4/44. Propeller 18. 4. 44.

Stern tube 4. 4. 44. Engine and boiler seatings 17. 7. 44. Engines holding down bolts 3. 8. 44.

Completion of fitting sea connections 18. 4. 44.

Completion of pumping arrangements 24. 8. 44. Boilers fixed 3. 8. 44. Engines tried under steam 24. 8. 44.

Main boiler safety valves adjusted 24. 8. 44. Thickness of adjusting washers P 7/16" S 1/2".

Crank shaft material F. 1. 8 steel Identification Mark 3918. T. 28/4/44 Thrust shaft material F. 1. 8 steel Identification Mark 3918. T. 28/4/44.

Intermediate shafts, material F. 1. 8 steel Identification Marks 3918. T. 28/4/44 Tube shaft, material NONE. Identification Mark —.

Screw shaft, material F. 1. 8 steel Identification Mark 1937. CP. Steam Pipes, material S steel Test pressure 600 lb. Date of Test 21/8/44.

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.

Is this machinery duplicate of a previous case. Yes. If so, state name of vessel. S. M. Tug. EMPIRE PAT. HUL. RPT. 51723.

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery of this Vessel has been constructed in accordance with the approved plans, the Rules and the Specifications; of tested material made by firms accredited by the Society.

The Workmanship and Materials are good.

The Machinery & Auxiliaries have been fitted on board and, when tried under steam at as near full power as practicable in the basin, were found satisfactory in every respect.

The Vessel is eligible, in our opinion, when classed to have the records of LMC 8.44. and O.G. and the Notations T. 3 Cy 15', 25", 42" — 27". 132 NHP. 200 lb. 10' 15.3. 3. cf. H.S. 2390.

Fitted for Oil Fuel F.P. above 150° F.

The amount of Entry Fee ... £ 3 : 0 :
Special CLASS. ... £ 33 : 0 :
Donkey Boiler Fee ... £ 8 : 5 :
Travelling Expenses (if any) £ : :
When applied for, 14 SEP 1944
When received, 19

W. L. Shields & J. R. R. R.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute ...

Assigned ... LMC 8.44



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