

REPORT ON STEAM RECIPROCATING ENGINE MACHINERY.

Received at London Office

12 JUL 1930

Date of writing Report 10 When handed in at Local Office 11.7.1930 Port of Newcastle-on-Tyne
 No. in Survey held at South Shields Date, First Survey 14th Jan Last Survey 2nd July 1930
 Reg. Book. on the S.S. "HARPAGUS" (Number of Visits 41)
 Built at South Shields By whom built John Readhead & Sons Ltd. Yard No. 502 When built 1930
 Engines made at South Shields By whom made J. Readhead & Sons Ltd. Engine No. 502 when made 1930
 Boilers made at South Shields By whom made J. Readhead & Sons Ltd. Boiler No. 502 when made 1930
 Registered Horse Power Owners National S.S. Co. Ltd. Port belonging to London
 Nom. Horse Power as per Rule 436 Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted Yes.
 Trade for which Vessel is intended Ocean Going General Cargo.

ENGINES, &c.—Description of Engines Triple expansion Surface Condensing Revs. per minute 73
 Dia. of Cylinders 24 3/4" x 41" x 68" Length of Stroke 45" No. of Cylinders 3 No. of Cranks 3
 Crank shaft, dia. of journals as per Rule 13.29" Crank pin dia. 13 3/8" Crank webs Mid. length breadth 19" Thickness parallel to axis 8 3/4"
 as fitted 13 3/8" Mid. length thickness 8 3/4" shrunk Thickness around eye-hole 5 15/16"
 Intermediate Shafts, diameter as per Rule 12.66" Thrust shaft, diameter at collars as per Rule 13.29"
 as fitted 12 3/4" as fitted 13 3/8"
 Tube Shafts, diameter as per Rule 14.09" Screw Shaft, diameter as per Rule 14 5/8" Is the — shaft fitted with a continuous liner Yes.
 as fitted — as fitted —
 Bronze Liners, thickness in way of bushes as per Rule 0.73" Thickness between bushes as per Rule parallel Is the after end of the liner made watertight in the
 as fitted 3/4" as fitted —
 propeller boss Yes. I.R. Ring 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 shaft No Length of Bearing in Stern Bush next to and supporting propeller 4'-9"
 Propeller, dia. 17'-3" Pitch 17'-0" No. of Blades 4 Material Bronze whether Movable Fixed Total Developed Surface 92 sq. feet
 Feed Pumps worked from the Main Engines, No. 2 Diameter 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes.
 Bilge Pumps worked from the Main Engines, No. 2 Diameter 4 3/8" Stroke 24" Can one be overhauled while the other is at work Yes.
 Feed Pumps { No. and size 2 D.A. 7" x 9 1/2" x 21" } Steam Pumps connected to the { No. and size 1 D.A. 12 1/2" x 10 1/2" x 21"
 { How driven Duplex 7 1/2" x 5" x 7" } Driven Main Bilge Line { How driven Steam driven
 Ballast Pumps, No. and size 1 D.A. 12 1/2" x 10 1/2" x 21" 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 2 3/4" dia.
 In Holds, &c. N^o 1. 2-3"; N^o 2. 2-3 1/2"; N^o 4. 2-3"; N^o 5. 2-3" Tunnel Well. 1-2 1/2"

Main Water Circulating Pump Direct Bilge Suctions, No. and size 1-6" **Independent Power Pump Direct Suctions to the Engine Room Bilges,**
 No. and size 1-4 1/2" 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 Both.
 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 Yes. Is it fitted with a watertight door Yes. worked from Top platform.

MAIN BOILERS, &c.—(Letter for record 3) Total Heating Surface of Boilers 7742.5 sq. ft. 7743
 Is Forced Draft fitted No. No. and Description of Boilers 3 cylindrical multitubular Working Pressure 200 lbs.
IS A REPORT ON MAIN BOILERS NOW FORWARDED? Yes. 2 S.B. 81 Aux S.B.
IS A DONKEY BOILER FITTED? No. If so, is a report now forwarded? —
PLANS. Are approved plans forwarded herewith for Shafting No. Main Boilers Yes. Auxiliary Boilers Yes. Donkey Boilers —
 Superheaters — General Pumping Arrangements Yes. Oil fuel Burning Piping Arrangements —

SPARE GEAR. State the articles supplied:— 2 Bolts each for top end, bottom end + main bearing brasses.
1 set Coupling Bolts. 1 set valves each for air, feed, circulating + bilge pumps. 1 C.I. Propeller
1 Screwshaft (C.I.). 10 condensers tubes + 60 ferrules. 6 plain tubes for boilers. 50 assorted
Bolts + Nuts. 6 bars Iron. 2 sheets Sheet Iron. 6 piston Bolts.

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship? NOTE.—The words which do not apply should be deleted.

The Forensic & Engineering Division,
For JOHN READHEAD & SONS LTD.

John H. Readhead
Manufacturer.

Manufacturer.



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Lloyd's Register
Foundation

W1318-0178

CHAIRMAN & MANAGING DIRECTOR,

1930 Jan 14. 20. Feb. 6. 7. 12. 17. 24. 26. 28. Mar. 3. 11. 12. 19. 25. Apr. 1. 2. 4. 9. 16. 17. 23. 25. 29. May 2. 7. 12. 15. 20. 22. 26. 27. 29. 31. June 2. 3. 4. 11. 16. 17. July 1. 2.

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

41.

Dates of Examination of principal parts—Cylinders 12-5-30 Slides 12-5-30 Covers 12-5-30
 Pistons 12-5-30 Piston Rods 12-5-30 Connecting rods 12-5-30
 Crank shaft 19-3-30 Thrust shaft 25-5-30 Intermediate shafts 25-5-30
 Tube shaft / Screw shaft 25-5-30 Propeller 15-5-30
 Stern tube 12-5-30 Engine and boiler seatings 20-5-30 Engines holding down bolts 29-5-30
 Completion of fitting sea connections 12-5-30
 Completion of pumping arrangements 17-6-30 Boilers fixed 22-5-30 Engines tried under steam MOORING 30-5-30 SEA 3-7-30
 Main boiler safety valves adjusted 30-5-30 Thickness of adjusting washers P. 3/8" AUX. 3/8" S. 3/8"
 Crank shaft material S.M.I. Steel Identification Mark 6592 D. Thrust shaft material S.M.I. Steel Identification Mark 7/16" 3129 E.L.K. 25/5/30
 Intermediate shafts, material S.M.I. Steel Identification Marks 3151 & 3191 Tube shaft, material / Identification Mark /
 Screw shaft, material S.M.I. Steel Identification Mark 3151 & 3245 Steam Pipes, material S.D. Steel Test pressure 600 lbs. Date of Test 26-5-30
 Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓
 Have the requirements of the Rules for carrying and burning oil fuel been complied with ✓
 Is this machinery duplicate of a previous case No If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed under Special Survey in accordance with rule requirements & approved plans. The materials & workmanship are good. The machinery was satisfactorily tested during mooring & sea trials, & in my opinion, is eligible for classification with record of + L.M.C. 7-30.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 7.30 C.L.

J. 16/7/30

Newcastle-on-Tyne

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

The amount of Entry Fee ... £ 5 : 0 :
 Special ... £ 90 : 8 :
 Donkey Boiler Fee ... £ : :
 Late Attendance ... £ 1 : 1 :
 Travelling Expenses (if any) £ : :
 When applied for, 11 JUL 1930
 When received, 15. 7. 30

E. H. Knowles
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 18 JUL 1930

Assigned

CERTIFICATE WRITTEN.



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